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ANNUAL REPORT

OF THE

KIRKEE CIVIL DAIRY

FOR THE YEAR

1907-1908

BY

J. B. KNIGHT, M.Sc., ETC.,

Professor of Agriculture.

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REPORT OF THE KIRKEE CIVIL DAIRY FOR THE YEAR 1907-08.

I.—Introduction.

The objects of the dairy are—

- (1) To afford instruction for the students of the College of Agriculture, Poona.
- (2) To serve as a model dairy to the public.
- (3) To give opportunity for experiments in feeding and dairying.
- (4) To improve dairy-breeds.
- (5) To supply pure milk to the invalids and children of Poona and Kirkee.
- (6) To allow owners of milch cattle the free services of good bulls.

II.—Health of Animals.

During the year under report the health of cattle on the farm was excellent. The year was quite free from any contagious diseases, hence the death-rate among farm-cattle was much below last year. Some of the buffaloes were dry the whole year, due to abortion the previous year.

III.—Milk-supply.

The year's supply of milk amounted to 186,484 lbs., which being insufficient to meet the local demand, some arrangement had to be made to hire good milking buffaloes from local Gavalis (milkmen) and keep them on the farm under the farm's supervision. The Sassoon Hospital contract was continued on the same terms as last year.

Arrangements for supplying special milk for infants have been continued. The demand for this milk is daily increasing and more cows had to be selected for this purpose. The cows so selected are never fed with oil-cake, cotton seed or green fodder, and are never allowed to graze. They are fed principally on hay, bran, chuni and gram.

IV.—Quality of Milk.

The quality of the milk was excellent. The proportion of fat in the cow's milk varied from over 4 per cent. to 6 per cent., the average being about 5 per cent. fat. In the case of the buffaloes the proportion of fat was about 2 per cent. higher on the average.

V.—Yield of Milk.

It will be seen from the two following statements that, among cows and buffaloes, the cattle named below are the best givers of milk during the year under report:—

No.	Name of cattle.			Breed.	Yield of milk in lbs.
Cows.					
1	Bhasmi	...	...	Sindhi	3,733
2	Mungali	...	...	Sindhi-Cross	3,454
3	Pavali	...	...	Gir	2,978
4	Sansari	...	...	Aden	2,168
BUFFALOES.					
1	Ranga	...	...	Surati	4,478
2	Salu	...	...	Delhi	2,770
3	Ratan	...	..	Jafrabadi	2,614
4	Hira	...	...	Deccani	1,655

STATEMENTS SHOWING RECORD OF MILK OF
EACH ANIMAL DURING 1907-1908.

*Statement showing record of milk of each animal during
for which the animal*

No.	Name.	Age.	Total number of years under observation.	Results during the period shown		
				Total number of days in milk.	Total dry days.	Average of maximum daily yield.
1	2	3	4	5	6	7
	<i>Cows - I.</i>	<i>Y. m. d.</i>				<i>lbs oz.</i>
	<i>Adens.</i>					
1	Bhāg.	... Aged	9	2,157	821	15 5
2	Shāti	... 4 8 11	11 $\frac{1}{4}$	415	70	14 4
3	Kāshi	... About	7	225	55	7 4
4	Parvati	... " 9	3 $\frac{3}{4}$	37	213	8 8
5	Sansari	... Aged	1	239	127	18 12
	<i>S'ndhi.</i>					
1	Ambi	... 7 4 20	21 $\frac{1}{4}$	592	232	11 1
2	Annapurna	... 8 3 15	4	889	572	8 7
3	Bhasmi	... 11 11 22	8	1,821	1,109	14 13
4	Bulākhī	... 4 9 16	21 $\frac{1}{4}$	811	...	14 15
5	Giti	... 4 3 19	21 $\frac{3}{4}$	609	163	18 1
6	Houshi	... About 13	6	2,006	95	14 7
7	Kanāi	... " 14	6	1,608	543	13 0
8	Khīlāri	... 5 4 4	21 $\frac{1}{4}$	792	35	14 6
9	Lakuri	... About 11	6	1,615	546	16 6
10	Makhmal	... Medium	5 $\frac{1}{2}$	1,235	770	10 9
11	Mhātāri	... Aged	5 $\frac{1}{2}$	1,285	724	10 10
12	Mori	... About 12	6	1,727	464	14 9
13	Mutri	... 7 8 18	3 $\frac{3}{4}$	1,155	260	13 12
14	Pāri	... About 15	8	2,150	771	14 7
15	Piri	... 12 2 29	9	2,609	677	14 5
16	Pitambri	... 12 7 13	9	2,924	362	17 4
17	Polari	... About 12	8	1,823	1,088	15 15
18	Putali	... " 15	8	1,736	1,181	14 2
19	Radhi	... " 12	6	1,554	633	12 5
20	Samarathi	... 15 0 0	9	2,135	1,151	10 7
21	Seni	... 5 2 22	21	712	112	6 5
22	Sukhi	... 8 10 4	4 $\frac{3}{4}$	1,435	331	12 6
23	Tambori	... 8 10 4	6	1,628	560	12 15
24	Zankar	... About 15	6	1,780	411	18 10
25	Mohan	... 5 2 27	1	374	...	18 4
	<i>Sindhi-Cross.</i>					
1	Karā	... 10 8 10	7	1,009	947	14 8
2	Mungali	... 6 2 3	21	810	...	16 4
3	Shendi	... 7 3 19	21 $\frac{1}{4}$	793	50	14 13
4	Yeshi	... About 9	31 $\frac{1}{2}$	1,311	110	16 14
	<i>Gir.</i>					
1	Bhavali	... About 12	31	561	623	17 3
2	Budhi	... " 10	31	735	448	14 9
3	Godi	... " 12	41	1,330	191	15 7
4	Kamali	... " 12	31 $\frac{1}{2}$	792	466	12 13

1907-08, together with the financial results of the total period was under observation.

in column 4.		Yield of milk during 1907-08.	Financial results for total period shown in column 4.					Remarks.
Average daily yield of milking period.	Yearly average output.		Value of milk.	Cost of feeding.	Cost of attendance.	Net profit.	Average net profit per year.	
8	9	10	11	12	13	14	15	16
Lbs. oz.	Lbs.	Lbs. oz.	- Rs.	Rs.	Rs	Rs.	Rs.	
10 4	2,814	2,443 0	2,200	831	323	1,046	116	} New.
7 12	2,687	2,056 8	274	204	23	44	35	
5 1	...	1,145 0	95	83	10	2	...	
5 6	...	199 12	16	40	2	-26	...	
10 5	2,468	2,468 0	206	127	21	58	58	
7 5	1,930	808 0	361	223	29	109	48	} Sold. Sent to Poona Pinjrapol.
5 10	1,270	307 0	420	280	42	98	24	
9 3	2,095	3,733 0	1,489	765	261	463	58	
9 10	3,473	2,993 8	651	290	56	305	136	
9 13	2,754	2,436 4	497	184	46	267	123	
9 8	3,329	2,720 0	1,800	634	177	989	165	
7 15	2,136	1,542 12	1,161	554	151	456	76	
8 7	2,985	2,740 4	560	240	49	271	120	
8 9	2,352	3,027 8	1,234	417	177	640	107	
7 3	1,614	...	807	375	136	296	54	
7 5	1,685	...	850	324	130	396	72	
8 5	2,402	1,251 0	1,281	590	163	523	88	
8 2	2,511	2,378 0	754	300	64	400	107	
8 11	2,347	2,365 4	1,671	687	261	723	90	
8 13	2,561	2,710 0	2,070	808	325	937	104	
10 4	3,337	3,578 0	2,593	1,621	314	1,223	136	} Sold.
8 12	2,011	1,27 4	1,412	647	252	513	64	
8 3	1,780	1,143 0	1,248	626	241	381	48	
8 5	2,167	668 0	1,175	496	147	532	89	
6 11	1,632	121 4	1,252	684	238	280	31	
9 4	2,932	3,218 12	550	217	48	255	113	
7 15	2,361	2,398 8	954	408	32	454	94	
9 3	2,276	1,962 0	1,210	486	161	561	94	
11 15	3,501	3,623 0	1,851	634	183	1,034	172	
8 7	3,477	3,477 0	294	135	29	30	30	
9 11	2,235	1,776 4	1,382	664	212	506	72	
9 12	3,513	3,454 0	666	302	47	317	141	
9 14	3,302	2,539 4	654	238	53	353	166	
9 5	3,118	2,523 0	1,048	387	78	583	148	
12 6	2,158	589 8	584	247	40	297	91	
8 11	1,971	1,190 0	534	285	44	205	63	
8 9	2,739	2,836 8	1,010	425	72	513	123	
7 4	1,695	1,441 8	482	297	39	146	43	

No.	Name.	Age.	Total number of years under observation.	Results during the period shown		
				Total number of days in milk.	Total dry days.	Average of maximum daily yield.
1	2	3	4	5	6	7
	Cows—I— <i>continued.</i>	Y. m. d.				Lbs. oz.
	<i>Gir</i> — <i>continued.</i>					
5	Lahiri ...	About 8	$3\frac{5}{12}$	1,088	170	14 3
6	Mukharan ...	" 13	$3\frac{1}{12}$	762	369	17 3
7	Nábdí ...	" 15	$3\frac{1}{2}$	622	488	12 0
8	Pavali ...	" 12	$3\frac{5}{12}$	887	372	14 0
9	Sugran ...	Medium ...	$3\frac{5}{6}$	360	676	7 0
10	Umbari ...	About 16	$2\frac{1}{12}$	709	407	14 15
11	Kajali ...	" 12	$1\frac{1}{2}$	509	120	11 11
12	Mahali ...	" 10	$1\frac{3}{4}$	508	131	12 8
13	Ganalan ...	" 15	$\frac{1}{6}$	60	...	12 0
14	Ghodmukhi ...	" 16	$\frac{1}{6}$	60	...	7 0
15	Kabutar ...	Young ...	$\frac{1}{3}$	...	121	...
	<i>Gir</i> — <i>Cross.</i>					
1	Bigul ...	About 14	9	2,558	724	13 0

NOTE.—The average yearly yield per cow comes to 1,844 lbs. The average daily yield 5 lbs. 2 oz. The average cost of feeding the cow Rs. 95-13-8 per year, and the average net profit per cow Rs. 42-10-1.

Column 7.—The maximum day's yield of the year is always quoted at a sale as an indication of an animal's productiveness and the average of these record yields for the whole period of observation is here given as affording a fair basis for comparison between the various animals in milk.

Column 9.—Gives the average for the whole period inclusive of dry days.

Column 11.—The price of milk has varied for customers from 10 lbs. to 14 lbs. per rupee, but an attempt has been made to fix a slightly higher arbitrary figure to cover cost of distribution. It must, however, be remembered that these statements are only intended to afford a basis for comparison between animals, and the figures do not give an accurate indication of the total profit or loss. When the demand for milk is small or it is otherwise unprofitable, it is turned to ghi or butter and in such cases the price estimated for milk is not realized in practice. Charges for supervision, etc., are also net taken into account in estimating these comparative net profits per animal.

Column 12.—These figures are actuals. It may be noted that cost of feeding and attendance varies with different animals according to period of lactation, size, yield of milk and individual idiosyncrasies.

Column 13.—These figures are actuals for the last 4 years and approximate estimates for preceding years.

in column 4.		Yield of milk during 1907-08.	Financial results for total period shown in column 4.					Remarks.
Average daily yield of milking period.	Yearly average output.		Value of milk.	Cost of feeding.	Cost of attendance.	Net profit.	Average net profit per year.	
8	9	10	11	12	13	14	15	16
Lbs. oz.	Lbs.	Lbs. oz.	Rs.	Rs.	Rs.	Rs.	Rs.	
8 15	2,846	2,519 0	811	359	60	392	115	
8 8	2,444	1,752 0	540	238	44	253	84	
7 9	1,167	1,779 0	319	251	31	37	11	
7 13	2,031	2,978 0	578	305	49	224	65	
5 6	458	...	137	174	12	...	-17	Sold.
8 15	2,062	2,801 0	530	233	43	254	82	
7 10	2,212	1,875 8	322	243	30	44	25	
7 12	2,252	1,146 0	323	197	31	100	56	
11 0	...	660 0	55	23	6	21	...	} New.
5 0	...	302 0	25	18	2	5	...	
...	...	...	...	15	...	-15	...	
8 2	2,323	1,754 4	1,791	799	317	675	75	

*Statement showing the record of milk of each animal during
for which the animal*

No.	Name.	Age.	Total number of years under observa- tion.	Results during the period		
				Total number of days in milk.	Total dry days.	Average of maxi- mum daily yield.
1	2	3	4	5	6	7
	BUFFALOES—II.	Y. m. d.				Lbs. oz
	<i>Jafraabadi.</i>					
1	Kundol	About 15	5	889	937	13 13
2	Ratan	" 16	5	1,305	517	22 2
3	Sardari	" 13	3 $\frac{1}{2}$	1,015	242	19 8
	<i>Delhi.</i>					
1	Rambha	14 11 9	9	2,096	1,190	12 12
2	Salu	About 18	8 $\frac{1}{2}$	900	311	17 4
3	Godi (Cross)	" 6	1 $\frac{1}{2}$	391	120	17 13
	<i>Surti.</i>					
1	Aditwari	About 13	3 $\frac{1}{2}$	965	352	13 4
2	Barsi	" 14	5	1,079	747	16 2
3	Bayaja	16 6 24	9	2,134	1,152	14 9
4	Bhavari	About 12	3 $\frac{1}{2}$	972	349	14 7
5	Bhori	Aged ...	9	2,584	702	15 0
6	Chhabeli	15 9 11	9	2,195	1,121	15 0
7	Chandani	Aged ...	5	848	978	13 4
8	Durga	About 15	5	1,260	566	13 15
9	Gahina	" 15	3 $\frac{1}{2}$	839	297	15 12
10	Gajari	" 17	9	2,286	996	13 11
11	Ganga	" 17	9	2,270	1,016	16 11
12	Ghari	" 16	9	2,277	1,005	17 0
13	Ghosali	" 12	3 $\frac{1}{2}$	765	655	9 12
14	Ghumbari	" 14	3 $\frac{1}{2}$	784	537	10 10
15	Girji	" 15	3 $\frac{1}{2}$	849	462	14 14
16	Gujar	" 20	9	2,095	1,187	13 8
17	Jamadar	15 3 27	9	2,096	1,086	15 5
18	Kaveri	15 3 17	9	2,587	695	19 5
19	Maini	About 10	2 $\frac{1}{2}$	694	210	11 11
20	Mori	" 13	3 $\frac{1}{2}$	1,006	311	15 8
21	Parli	" 15	9	2,91	985	14 9
22	Patangi	" 13	3 $\frac{1}{2}$	875	376	19 4
23	Putali	" 18	8	2,038	879	12 3
24	Ranga	" 13	6	1,365	822	17 15
25	Rupi	" 12	3 $\frac{1}{2}$	851	630	13 6
26	Shevari	" 15	5	959	917	14 2
27	Tavali	" 9	3 $\frac{1}{2}$	786	582	12 5
28	Sajani	" 8	2	458	273	20 0
29	Sardhool	" 10	1 $\frac{1}{2}$	215	...	23 4
30	Dimak	" 12	1 $\frac{1}{2}$	18	...	17 8

1907-08, together with the financial results of the total period was under observation.

shown in column 4.		Yield of milk during 1907-08.	Financial results for total period shown in column 4.					Remarks.
Average daily yield of milking period.	Yearly average output.		Value of milk.	Cost of feeding.	Cost of attendance.	Net profit.	Average net profit per year.	
8	9	10	11	12	13	14	15	16
Lbs. oz.	Lbs.	Lbs. oz.	Rs.	Rs.	Rs.	Rs.	Rs.	
11 2	1,979	...	807	401	93	313	63	Dry for the whole year.
14 2	3,696	2,613 12	1,507	464	136	907	182	
12 8	3,733	2,517 8	1,063	437	63	563	106	
8 11	2,032	1,433 8	1,428	818	300	310	34	
11 10	3,136	2,770 12	871	386	63	422	127	
8 10	2,387	1,915 8	282	232	27	23	16	
8 5	2,606	3,824 12	754	344	59	351	100	
10 15	2,372	589 0	961	422	100	439	88	
8 14	2,105	889 4	1,484	930	289	265	29	
8 9	2,711	3,126 4	800	355	64	381	124	
10 5	2,980	2,249 12	2,093	1,035	310	748	83	
11 13	2,884	...	2,054	925	293	836	93	
7 11	1,305	1,806 12	535	357	90	88	18	Dry for the whole year. Sold.
8 9	2,163	2,919 12	884	515	112	257	51	
9 10	2,624	1,839 12	673	335	49	289	94	
10 6	2,648	3,585 12	878	931	314	633	70	
12 4	3,104	1,126 12	2,203	923	315	895	99	
12 0	3,039	2,090 8	2,155	971	320	864	96	
7 15	1,697	...	507	289	31	187	52	Dry for the whole year. Sold.
7 15	1,738	964 12	519	373	34	112	31	
9 4	2,199	1,546 0	657	363	48	246	69	
8 7	1,963	2,263 4	1,383	815	301	267	30	
10 7	2,446	2,273 4	1,742	636	316	730	81	
12 5	3,545	4,242 8	2,532	1,065	347	1,120	122	
5 10	1,627	1,434 8	327	267	28	32	13	
10 0	2,829	2,585 0	841	357	62	422	118	
8 7	2,157	2,361 8	1,536	888	310	333	43	
15 2	3,341	3,462 12	998	367	67	564	157	
9 7	2,410	2,665 12	1,478	810	262	406	51	
11 5	2,586	4,477 12	1,265	627	173	465	77	
10 2	2,415	1,475 12	722	338	54	330	92	
9 7	1,818	16 0	737	382	99	256	51	
10 9	2,217	...	692	295	38	350	96	
13 9	3,099	3,914 12	516	277	50	229	114	} New.
15 15	...	3,439 8	287	124	29	134	...	
16 3	...	292 0	24	18	2	4	...	

No.	Name.	Age.	Total number of years under observation.	Results during the period		
				Total number of days in milk.	Total dry days.	Average of maximum daily yield.
1	2	3	4	5	6	7
	BUFFALOES—II— <i>contd.</i>	Y. m. d.				Lbs. oz.
	<i>Surti—continued.</i>					
31	Phauj	About 10	$\frac{7}{12}$	215	...	22 0
32	Nishan	" 8	$\frac{1}{12}$	215	...	23 4
33	Sayni	" 6	$\frac{7}{12}$	215	...	18 0
34	Magni	" 4	$\frac{2}{3}$	234	...	16 0
35	Bigali	Aged ...	$\frac{3}{4}$	269	...	11 8
36	Gavara	About 14	$\frac{1}{10}$	60	...	10 0
	<i>Deccani.</i>					
1	Ghevada	About 14	$1\frac{5}{6}$	284	386	10 11
2	Kevda	" 13	$1\frac{5}{6}$	230	440	10 0
3	Chandri	" 15	$1\frac{5}{6}$	510	160	12 4
4	Rumali	" 12	$1\frac{5}{6}$	297	373	11 1
5	Hira	" 12	$1\frac{5}{6}$	452	218	9 15
6	Hungani	" 14	$1\frac{5}{6}$	284	386	6 13
7	Nandi	" 10	$1\frac{5}{6}$	486	184	13 2
8	Gharol	" 10	$1\frac{5}{6}$	288	382	10 15

NOTE.—The average yearly yield per buffalo comes to 1,886 lbs.; the average daily yield 5 lbs. and 2 oz., and the average cost of feeding per buffalo Rs. 108-3-4 and average net profit per buffalo Rs. 34-8-2.

Explanation of figures given in columns 7, 9, 11, 12 and 13 is the same as given below the statement of cows.

shown in column 4.		Yield of milk during 1907-08.	Financial results for total period shown in column 4.					Remarks.
Average daily yield of milking period.	Yearly average output.		Value of milk.	Cost of feeding.	Cost of attendance.	Net profit.	Average net profit per year.	
8	9	10	11	12	13	14	15	16
Lbs. oz.	Lbs.	Lbs. oz.	Rs.	Rs.	Rs.	Rs.	Rs.	
12 15	...	2,773 0	231	110	23	98	...	} New.
16 3	...	3,491 0	291	124	29	138	...	
13 5	...	2,875 8	240	124	24	92	...	
13 10	...	3,194 0	266	130	27	109	...	
9 0	...	2,423 12	202	123	20	59	...	
8 8	...	511 0	43	30	4	9	...	
7 12	1,199	332 0	182	163	16	3	2	} Loss.
6 10	1,028	...	126	163	11	—43	—26	
7 9	2,094	1,409 8	320	232	30	58	31	
8 9	1,385	806 12	211	153	20	38	21	
6 4	1,540	1,654 12	235	222	23	—10	—5	
6 1	941	227 0	144	156	13	—25	—14	
8 2	2,151	1,144 12	328	206	31	91	50	
8 4	1,296	423 0	198	160	19	19	11	

V.—Strength of the Herd.

5. The statement below shows the strength of the herd on the 1st April 1908 as compared with that on 1st April 1907.

From the figures in the statement it will be seen that the total number of cattle on the 1st April 1908 was in excess by 52 of what it was on the same date last year. Among the cattle sold only those cows and buffaloes yielding very low quantity of milk were disposed of. One cow (Mhatari), being very old, was sent to Poona Pinjrapol. To meet the demand for milk 5 cows (3 Adens and 2 Girs) and 7 buffaloes (all Surtis) were purchased.

Statement showing the strength of the herd on 1st April 1908, as compared with that on 1st April 1907.

Description.	Strength on 1st April 1907.	Increase.			Decrease.				Strength on 1st April 1908.	Valuation.		Increase or decrease during the year.	Remarks.
		Purchased or transferred.	Born.	Total.	Sold.	Died.	Transferred.	Total.		1907.	1908.		
Cows.	No.	No.	No.	No.	No.	No.	No.	No.	No.	Rs.	Rs.	Rs.	
Stud bulls ...	10	...	...	...	...	1	...	1	9	620	600	—20	
Cows ...	44	6	...	6	4*	...	...	4*	46	2,415	2,630	+245	* 3 sold and 1 sent to Pinjrapol.
Heifers ...	3	...	...	...	...	...	1	1	2	90	70	—20	
Cow-calves ...	20	5	20	25	...	5	...	5	40	212	427	+215	
Bull-calves ...	15	1	19	20	10	3	...	13	22	172	210	+38	
Total ...	92	12	39	51	14	9	1	24	119	3,509	3,967	+458	
Buffaloes.													
Buffalo-bulls ...	6	1	...	1	4	...	...	4	3	340	175	—165	
She-buffaloes ...	42	9	...	9	3	...	...	3	43	1,565	2,335	+820	
Heifers ...	4	...	...	...	...	...	1	1	3	105	100	—35	
Buffalo-cow-calves.	11	3	19	22	...	3	...	3	30	197	175	+68	
Do. bull-calves.	5	2	7	9	3	2	...	5	9	12	45	+23	
Total ...	68	15	23	41	10	5	1	16	93	2,160	2,880	+711	
Dairy cart-horses.	2	...	...	...	...	...	...	...	2	250	260	+50	

VI.—Breeds kept.

6. The breeds kept on the farm are among cows—1 Karáchi or Sindhi, 2 Aden and 3 Gir, and among buffaloes—1 Jafrabadi, 2 Delhi, 3 Kaira or Surti and 4 Varadhi or Deccani.

The number of farm-bred heifers and cows rose to 30 during the year, 1 being of the Gir breed. Two of the cows (Bulakhi and Mungoli) have been giving milk steadily for the last two years and three months without going dry. Mohan, a farm-bred heifer, which gave her first calf in March last, is still in milk and promises to be a good milker.

Three kinds of breeding bulls, *viz.*, 1 Sindhi, 2 Gir and 3 Aden are kept on the farm.

VII.—Service of Bulls.

7. Free service of bulls is given to the healthy animals of the public. During the year under report 11 cows and 14 buffaloes belonging to private persons were covered. Of the number of cows 5 were covered by Aden and 6 by Sindhi bulls. Also of the 14 buffaloes, 6 by Jafrabadi and 8 by Surti.

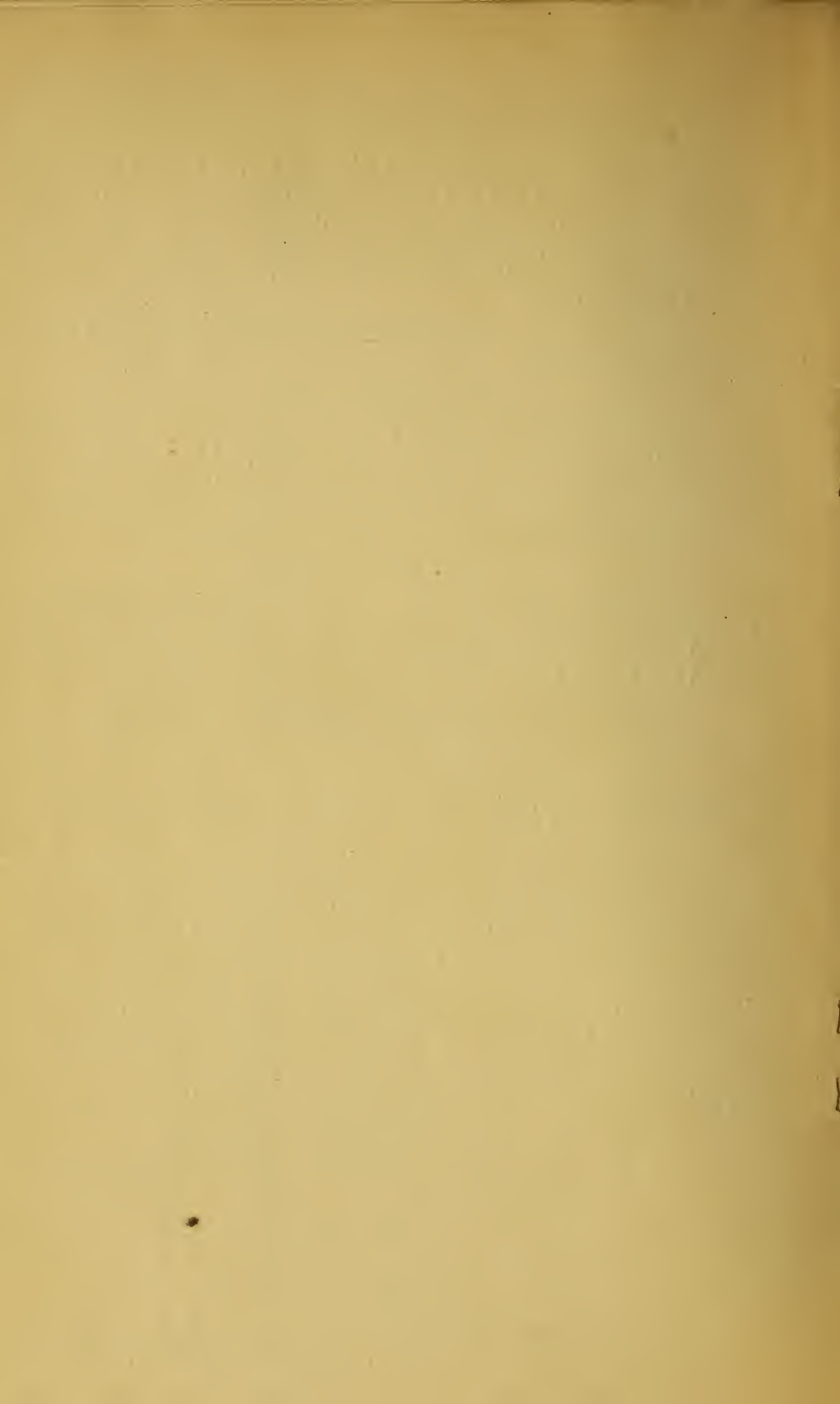
VIII.—Fodder-crops.

8. Fodder was grown on Mr. Wadya's land, measuring 16 acres 21 gunthás, adjoining the Civil Dairy. The land was rented for Rs. 350 for the year. The results of the several fodders grown are shown in the statement appended.

Statement showing several fodder-crops grown for the dairy on Mr. Wadya's field in 1907-08.

Name of crop.	Area under the crop.	Per acre.		Cost of 100 lbs. of fodder.	Date of sowing.	Date of flowering.	Remarks.
		Outturn of fodder.	Cost of cultivation.				
	A. g.	Lbs.	Rs. a. p.	Rs. a. p.			
Sundhla ...	1 28	3,528	4 5 10	0 1 11	20th June 1907 ...	22nd August 1907.	} Sown on two separate plots.
Do. ...	0 31	2,558	3 3 11	0 2 0	29th June 1907 ...	23th August 1907.	
Nilwa ...	2 15	1,173	3 12 3	0 5 2	7th July 1907 ...	20th September 1907.	} Semi-dried fodder.
Do. ...	1 24	1,150	5 2 6	0 7 2	9th July 1907 ...	17th September 1907.	
Do. ...	2 15	2,764	3 13 3	0 2 3	23th June 1907 ...	3rd September 1907.	Dry fodder.
Do. ...	0 20	6,032	5 3 4	0 1 4	20th June 1907 ...	15th September 1907.	Semi-dried fodder.
Rhona ...	0 20	5,420	6 0 0	0 1 9	Do. ...	14th October 1907.	
Bajri and Chavli mixed.	1 9	3,007	5 7 4	0 2 11	30th June 1907 ...	27th August 1907.	
Sorghum ...	0 20	4,430	2 10 8	0 1 0	7th July 1907 ...	10th October 1907.	
Do. ...	0 32	1,445	7 12 7	0 8 7	8th July 1907 ...	27th October 1907.	
Utavli ...	1 35	647	3 4 0	0 8 1	8th July 1907 ...	18th September 1907.	Semi-dried fodder.
Do. ...	2 16	1,464	9 4 3	0 10 2	Do. ...	8th September 1907.	Dry fodder.
Maize and Chavli mixed.	1 9	4,853	26 4 3	0 8 8	25th September 1907.	21st November 1907.	
Shalu ...	0 5	4,80	39 8 0	0 13 5	14th October 1907.	15th January 1908	
Maize ...	0 31	10,670	39 15 3	0 6 0	21st November 1907.	25th February 1908.	
Do. ...	1 28	291	24 0 6	0 8 8	14th December 1907.	2nd March 1908.	

J. B. KNIGHT,
Professor of Agriculture.



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1908/09 Department of Agriculture, Bombay.

RECEIVED
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ANNUAL REPORT

OF THE

KIRKEE CIVIL DAIRY

(Poona District, Deccan)

FOR THE YEAR

1908-1909

BY

J. B. KNIGHT, M.Sc., B.Sc.,

Professor of Agriculture.

BOMBAY

PRINTED AT THE GOVERNMENT CENTRAL PRESS

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THE KIRKEE CIVIL DAIRY, 1908-09.

I.—INTRODUCTION.

The objects of the Dairy are—

- (1) To afford instruction for the students of the College of Agriculture, Poona.
- (2) To serve as a model dairy to the public.
- (3) To give opportunity for experiments in feeding and dairying.
- (4) To improve dairy breeds.
- (5) To supply pure milk to the invalids and children of Poona and Kirkee.
- (6) To allow owners of milch cattle the free services of good bulls.

II.—HEALTH OF ANIMALS.

2. During the year under report the health of the cattle on the Farm was excellent. The year was quite free from any contagious diseases. Some of the buffaloes that were dry last year through abortions have calved.

III.—MILK SUPPLY.

3. The year's supply of milk amounted to 224,733 lbs., which being insufficient to meet the local demands, many customers had to be dropped to enable the Dairy to comply with demands for infants, invalids and the sick in the Sassoon Hospital. The Sassoon Hospital contract was continued on the same terms as last year.

4. Arrangements for supplying special milk for infants have been continued. The demand for this milk is daily increasing and more cows had to be selected for this purpose. The cows so selected are never fed with oil-cake, cotton-seed or green fodder, and are never allowed to graze. They are fed principally on hay, bran, chuni and gram.

IV.—YIELD OF MILK.

5. It will be seen from the following statements that among cows and buffaloes, the cattle named below produced the highest yield of milk in each breed in the year under report:—

No.	Name of cattle.		Breed.	Yield of milk.
	Cows.			Lbs.
1	Zankar	...	Sindhi	4,553
2	Pitambari	...	Do.	4,330
3	Mori	...	Do.	4,252
4	Bhasmi	...	Do.	3,668
5	Mohan	...	Do.	3,668
6	Houshi	...	Do.	3,544
7	Budhi	...	Gir	3,615
8	Mungli	...	Sindhi-Cross	3,387
9	Shiti	...	Hybrid	2,672
	BUFFALOES.			
1	Lavangi	...	Surati	4,929
2	Zabula	...	Jaffraladi	4,123
3	Gedi	...	Delhi-Cross	4,065
4	Hangami	...	Deccani	2,228

STATEMENTS SHOWING RECORD OF MILK OF
EACH ANIMAL DURING 1908-1909.

*Statement showing the record of milk of each animal during
for which the animal*

No.	Name.	Age.	Total number of years under observa- tion.	Results during the period shown		
				Total number of days in milk.	Total dry days.	Average of maxi- mum daily yield.
1	2	3	4	5	6	7
	I.—Cows.	Y. m. d.				Lbs. oz.
	<i>Adens.</i>					
1	Bhāgi	... Aged	10	2,683	959	18 13
2	Kāshi	... 8 0 0	1 $\frac{3}{4}$	453	192	9 2
3	Pārvati	... 10 0 0	1 $\frac{3}{4}$	359	286	9 12
4	Sansāri	... Aged	2	493	233	17 12
5	Shuti (Hybrid)	... 5 8 11	2 $\frac{1}{2}$	711	149	14 2
6	Dawlati Harsi	... Young	$\frac{1}{2}$	46	...	13 8
	<i>Sindhi.</i>					
1	Ambi	... 8 4 20	3 $\frac{1}{4}$	563	326	9 12
2	Annapurna	... 9 3 25	5	1,099	727	7 14
3	Bhasmi	... 12 11 22	9	2,186	1,100	14 6
4	Bulākh:	... 5 9 16	2 $\frac{3}{4}$	998	...	14 12
5	Giti	... 5 3 19	3 $\frac{1}{4}$	642	163	14 11
6	Houshi	... 14 0 0	7	1,428	128	14 3
7	Kanai	... 15 0 0	7	1,831	685	12 9
8	Khilāri	... 6 4 4	3 $\frac{1}{4}$	961	231	12 12
9	Lahiri	... 12 0 0	7	1,953	603	16 1
10	Mori	... 13 0 0	7	2,092	464	14 12
11	Mchan	... 6 2 27	2	739	...	17 12
12	Nutri	... 8 8 18	4 $\frac{1}{2}$	1,459	261	14 10
13	Pāri	... 16 0 0	9	2,424	862	14 5
14	Piri	... 13 2 29	10	2,966	685	13 14
15	Pitāmbari	... 13 7 18	10	3,289	362	18 0
16	Polāri	... 13 0 0	9	2,191	1,095	15 7
17	Putali	... 15 1 0	8 $\frac{1}{2}$	1,736	1,211	12 6
18	Rādhi	... 12 9 0	6 $\frac{3}{4}$	1,561	901	10 10
19	Soni	... 6 2 22	3 $\frac{1}{4}$	879	210	8 15
20	Sakhi	... 9 10 4	5 $\frac{6}{8}$	1,675	416	13 3
21	Tamlori	... 9 10 4	7	1,843	710	12 4
22	Zankar	... 16 0 0	7	2,145	411	19 1
23	Dawlati Pitāmbari	... Young	$\frac{5}{2}$	74	...	10 8
	<i>Sindhi-Cross.</i>					
1	Kara	... 11 8 10	8	1,694	1,227	14 10
2	Mungli	... 7 2 3	3 $\frac{1}{4}$	1,175	...	16 9
3	Shendi	... 8 3 19	3 $\frac{1}{8}$	1,116	72	14 10
4	Yesbi	... 10 0 0	4 $\frac{1}{2}$	1,679	110	16 3
	<i>Gir.</i>					
1	Bhavli	... 13 0 0	4 $\frac{1}{2}$	895	657	16 14
2	Budhi	... 11 0 0	4 $\frac{1}{2}$	1,019	529	16 5
3	Gavlan	... 16 0 0	1 $\frac{1}{2}$	101	124	12 7
4	Ghodmukhi	... 17 0 0	1 $\frac{1}{2}$	196	229	12 2
5	Godi	... 13 0 0	5 $\frac{1}{2}$	1,600	226	15 3

1908-09, together with the financial results of the total period has been under observation.

in column 4.		Yield of milk during 1908-09.	Financial results for total period shown in column 4.					Remarks.
Average daily yield of milking period.	Yearly average output.		Value of milk.	Cost of feeding.	Cost of attendance.	Net profit.	Average net profit per year.	
8	9	10	11	12	13	14	15	16
Lbs. oz.	Lbs.	Lbs. oz.	Rs.	Rs.	Rs.	Rs.	Rs.	
10 6	2,787	2,547 4	2,412	971	340	1,101	110	Loss.
4 15	1,287	1,107 12	187	104	18	—35	—20	
6 10	1,377	2,209 4	200	170	17	13	7	
9 5	2,321	2,173 12	387	248	36	163	51	
8 6	2,653	2,672 4	496	331	44	121	54	
7 15	...	354 4	30	26	2	2	...	New.
6 12	1,790	1,472 12	484	337	30	108	33	Died.
5 14	1,310	1,471 0	543	387	52	104	21	
9 5	2,266	3,668 0	1,795	910	286	569	63	
9 5	1,742	1,462 12	773	409	66	293	108	
9 8	1,947	130 4	508	232	47	229	102	
9 11	3,360	3,544 0	2,095	805	201	1,089	156	
7 8	1,962	917 8	1,237	657	157	423	60	
7 12	2,303	770 0	624	324	54	246	76	
8 5	1,330	2,197 4	1,417	543	192	677	97	
8 14	2,663	4,252 0	1,635	763	192	675	96	
9 4	3,572	3,668 0	600	324	54	222	111	
8 4	2,539	2,642 12	984	453	82	449	95	
8 11	1,349	2,365 8	1,868	839	277	752	84	
8 13	2,619	3,144 8	2,332	966	347	1,019	102	
10 6	3,436	4,330 12	2,954	1,200	374	1,380	138	
8 5	2,027	2,157 8	1,592	793	267	532	59	Died. Do.
8 3	1,560	...	1,248	629	241	378	47	
8 5	1,848	13 0	1,176	526	147	603	75	
9 4	2,811	2,540 0	762	384	66	312	96	
8 2	1,346	2,273 0	1,143	546	98	499	86	
8 12	2,111	1,119 8	1,303	599	172	532	76	New.
12 0	3,651	4,553 12	2,230	826	224	1,180	169	
9 0	...	655 0	55	33	4	18	...	
9 9	2,036	616 0	1,436	746	216	474	59	
9 10	3,475	3,587 12	948	492	70	386	119	
9 4	3,113	2,712 4	880	380	72	428	137	
8 12	2,982	2,450 12	1,232	537	95	620	152	
13 2	2,302	3,188 0	850	420	62	368	87	
9 13	2,394	3,315 12	835	456	69	310	73	
7 5	1,880	1,534 0	183	156	17	10	8	
5 14	992	856 0	96	81	8	7	6	
8 9	2,756	2,829 0	1,246	571	92	583	113	

No.	Name.	Age.	Total number of years under observation.	Results during the period shown		
				Total number of days in milk.	Total dry days.	Average of maximum daily yield.
1	2	3	4	5	6	7
	I.—Cows—continued.	Y. m. d.				Lbs. oz.
	Gir—continued.					
6	Kabutar ...	Young ...	1 $\frac{1}{2}$	90	396	7 14
7	Kájali ...	13 0 0	2 $\frac{3}{4}$	752	242	13 0
8	Kamali ...	13 0 0	4 $\frac{5}{8}$	1,078	545	13 12
9	Lahiri ...	9 0 0	4 $\frac{5}{8}$	1,388	235	13 15
10	Maháli ...	11 0 0	2 $\frac{3}{4}$	791	213	12 7
11	Mukharan ...	14 0 0	4 $\frac{1}{2}$	1,077	419	16 14
12	Narbadi ...	16 0 0	4 $\frac{1}{2}$	822	653	11 6
13	Pavali ...	13 0 0	4 $\frac{3}{8}$	1,125	499	13 12
14	Umbari ...	17 0 0	3 $\frac{1}{2}$	715	766	10 8
15	Pándhari ...	Young ...	1 $\frac{1}{6}$	60	...	13 12
	Gir-Cross.					
1	Bigul ...	15 0 0	10	2,813	834	13 0
2	Charodi ...	Young ...	$\frac{1}{6}$	60	...	13 4

NOTE.—The average yearly yield per cow comes to 2,031 lbs., the average daily yield to 5 lbs. 9 ozs., the average cost of feeding a cow Rs. 121, and the average net profit per cow Rs. 42-14-5.

Column 7.—The maximum day's yield of the year is always quoted at a sale as an indication of an animal's productiveness, and the average of these record yields for the whole period of observation is here given as affording a fair basis for comparison between the various animals in milk.

Column 9.—Gives the average for the whole period, inclusive of dry days.

Column 11.—The price of milk has varied for customers from 10 lbs. to 14 lbs. per rupee, but an attempt has been made to fix a slightly higher arbitrary figure to cover cost of distribution. It must, however, be remembered that these statements are only intended to afford a basis for comparison between animals, and the figures do not give an accurate indication of the total profit or loss. When the demand for milk is small, or it is otherwise unprofitable, it is turned into ghee or butter, and, in such cases, the price estimated for milk is not realized in practice. Charges for supervision, etc., are also not taken into account in estimating these comparative net profits per animal.

Column 12.—These figures are actuals. It may be noted that the cost of feeding and attendance varies with different animals according to period of lactation, size, yield of milk, and individual idiosyncrasies.

Column 13.—These figures are actuals for the last five years, and approximate estimates for preceding years.

in column 4.		Yield of milk during 1908-09.	Financial results for total period shown in column 4.					Remarks.
Average daily yield of milking period.	Yearly average output.		Value of milk.	Cost of feeding.	Cost of attendance.	Net profit.	Average net profit per year.	
8	9	10	11	12	13	14	15	16
Lbs. oz.	Lbs.	Lb. oz.	Rs.	Rs.	Rs.	Rs.	Rs.	
6 10	451	600 12	50	57	4	-11	-8	Loss.
8 2	2,215	2,221 8	507	388	44	75	27	
8 6	2,057	3,294 12	757	465	62	230	52	
8 12	2,757	2,450 12	1,015	505	77	433	98	
7 15	2,276	2,319 0	521	341	47	133	48	
8 7	2,477	2,579 0	755	381	62	550	135	
6 15	974	996 8	402	360	33	4	...	
7 15	2,029	2,020 12	746	413	63	270	61	
9 0	1,395	6 4	531	284	43	204	71	New.
11 12	...	657 12	55	44	5	6	...	
2 14	2,303	2,180 4	1,973	925	332	716	72	New.
10 4	...	685 8	49	44	4	1	...	

*Statement showing the record of milk of each animal during
for which the animal*

No.	Name.	Age.	Total number of years under observa- tion.	Results during the period		
				Total number of days in milk.	Total dry days.	Average of maxi- mum daily yield.
1	2	3	4	5	6	7
	II.—BUFFALOES.					Lbs. oz.
	<i>Jaffrabadi.</i>	Y. m. d.				
1	Kundal	16 0 0	6	1,187	1,004	14 6
2	Ratan	17 0 0	6	1,670	517	21 4
3	Saradāri	14 0 0	4 $\frac{5}{8}$	1,204	418	16 13
4	Zabula	9 0 0	4 $\frac{3}{4}$	262	12	26 0
	<i>Delhi.</i>					
1	Rambha	15 11 9	10	2,317	1,334	12 0
2	Sālu	19 0 0	4 $\frac{1}{2}$	1,085	491	15 7
3	Godi (Cross)	7 0 0	2 $\frac{5}{8}$	735	141	15 11
4	Lāndi	7 0 0	4 $\frac{5}{8}$	38	...	8 8
5	Bhivara	13 0 0	4 $\frac{3}{4}$	194	72	13 8
6	Nemād	9 0 0	4 $\frac{3}{4}$	266	...	20 8
	<i>Surati.</i>					
1	Aditwāri	14 0 0	4 $\frac{1}{2}$	1,180	502	14 1
2	Bārshi	15 0 0	6	1,312	879	15 10
3	Bāyaja	17 6 24	10	2,499	1,152	14 6
4	Bhavari	13 0 0	4 $\frac{1}{2}$	1,207	479	14 7
5	Bhori	Aged Do.	10	2,918	733	14 7
6	Bijali		13 $\frac{1}{2}$	434	200	10 10
7	Chhabeli		10 $\frac{1}{2}$	2,256	1,425	14 7
8	Dināk	13 0 0	1 $\frac{1}{2}$	152	231	13 10
9	Durga	16 0 0	6	1,337	754	13 9
10	Ghahina	16 0 0	4 $\frac{1}{2}$	1,173	328	16 0
11	Gājari	18 0 0	10	2,493	1,154	16 2
12	Ganga	17 3 0	9 $\frac{1}{2}$	2,270	1,107	18 8
13	Gavara	15 0 0	1 $\frac{1}{2}$	243	182	16 3
14	Ghāri	17 0 0	10	2,642	1,035	16 13
15	Ghosāli	13 0 0	4 $\frac{7}{8}$	808	877	9 8
16	Giraji	16 0 0	4 $\frac{7}{8}$	1,070	606	14 5
17	Gujar	21 0 0	10	2,376	1,271	13 10
18	Jamādār	16 3 27	10	2,344	1,203	15 2
19	Kāveri	16 3 17	10	2,782	865	19 1
20	Māyani	11 0 0	3 $\frac{5}{8}$	1,050	210	11 10
21	Majāni	5 0 0	1 $\frac{3}{4}$	151	145	19 10
22	Mori	14 0 0	4 $\frac{7}{8}$	1,276	406	15 3
23	Nishān	9 0 0	1 $\frac{7}{8}$	422	158	18 8
24	Parli	16 0 0	10	2,553	1,088	14 6
25	Patangi	14 0 0	4 $\frac{7}{8}$	1,088	528	18 2
26	Phoug	11 0 0	1 $\frac{7}{8}$	239	341	10 0
27	Putali	19 0 0	9	2,173	1,109	11 7
28	Ranga	14 0 0	7	1,480	1,072	17 13
29	Rupi	13 0 0	4 $\frac{7}{8}$	1,216	630	13 4
30	Shevri	16 0 0	6	959	1,282	11 12

1908-09, together with the financial results of the total period was under observation.

shown in column 4.		Yield of milk during 1908-09.	Financial results for total period shown in column 4.					Remarks.
Average daily yield of milking period.	Yearly average output.		Value of milk.	Cost of feeding.	Cost of attendance.	Net profit.	Average net profit per year.	
8	9	10	11	12	13	14	15	16
Lbs. oz.	Lbs.	Lbs. oz.	Rs.	Rs.	Rs.	Rs.	Rs.	
11 9	2,292	3,858 8	1,123	573	120	436	73	Sold. New.
13 2	3,657	3,459 12	1,795	657	160	978	163	
11 3	3,069	801 8	1,126	626	69	431	98	
15 12	...	4,123 0	344	183	28	133	...	
8 4	1,911	824 4	1,497	927	306	264	26	New. Do. Do.
10 11	2,668	1,107 8	963	475	71	417	96	
10 2	3,081	4,065 8	621	418	55	148	61	
6 10	...	250 8	21	14	2	5	...	
10 2	...	1,954 0	163	147	13	3	...	
10 3	...	2,701 0	225	149	19	57	...	
8 10	2,488	2,125 8	931	485	74	372	91	Died.
10 11	2,352	2,248 8	1,148	593	116	439	73	
8 11	2,195	3,001 4	1,734	1,116	310	308	31	
8 10	2,550	2,052 4	971	486	78	407	100	
6 1	2,817	1,347 4	2,205	1,158	320	727	73	
8 0	1,984	1,049 8	289	186	27	76	43	
10 14	2,637	410 4	2,088	973	296	819	82	
11 14	1,733	1,514 8	150	109	12	29	28	
8 11	1,941	831 4	953	657	118	178	30	
9 4	2,666	2,797 0	906	525	68	313	77	
10 1	2,527	1,438 8	1,998	1,060	324	614	61	Died.
12 4	2,768	...	2,203	1,008	315	880	95	
10 15	2,285	2,155 8	223	190	19	14	12	Died.
11 10	3,079	3,439 0	2,442	1,161	344	937	94	
7 14	1,394	307 12	534	335	33	166	36	
9 5	2,184	2,1 0 8	835	526	63	246	54	
8 5	1,970	2,030 8	1,552	935	315	302	30	
10 5	2,431	2,293 8	1,933	803	332	798	80	
12 6	3,438	2,470 8	2,738	1,206	364	1,168	117	
6 0	1,866	2,444 8	531	445	45	41	12	
13 12	3,749	3,054 12	541	287	48	186	112	
9 13	2,742	2,429 0	1,043	492	79	472	103	
10 5	3,444	1,962 0	454	229	43	182	115	Died.
8 8	2,174	2,324 0	1,730	1,032	329	369	37	
14 4	3,329	2,288 0	1,189	503	83	603	132	
11 14	1,790	62 4	236	158	23	55	35	
9 1	2,202	539 0	1,523	885	266	372	41	
11 7	2,424	1,453 4	1,386	675	183	528	75	
9 6	2,490	2,756 12	952	471	73	408	89	
9 9	1,515	...	737	442	99	196	33	

No.	Name.	Age.	Total number of years under observation.	Results during the period		
				Total number of days in milk.	Total dry days.	Average of maximum daily yield.
1	2	3	4	5	6	7
II.—BUFFALOES—contd.		Y. m. d.				Lbs. oz.
<i>Surati</i> —continued.						
31	Sajani ...	9 0 0	3	768	298	20 3
32	Sardal ...	11 0 0	1 $\frac{7}{8}$	467	113	20 9
33	Sáyani ...	7 0 0	1 $\frac{7}{8}$	455	115	18 13
34	Tavali ...	10 0 0	4 $\frac{3}{4}$	817	916	13 2
35	Lavangi ...	11 0 0	3 $\frac{3}{4}$	266	...	24 8
36	Mogra ...	10 0 0	3 $\frac{3}{4}$	265	1	23 0
37	Navsari ...	7 0 0	3 $\frac{3}{4}$	265	1	18 0
38	Poládi ...	12 0 0	3 $\frac{3}{4}$	254	12	20 12
39	Shitáp ...	9 0 0	3 $\frac{3}{4}$	264	2	21 8
40	Shanvári ...	Young ...	3 $\frac{3}{4}$	207	59	11 8
41	Jamni ...	10 0 0	3 $\frac{3}{4}$	266	...	17 8
42	Tura ...	8 0 0	3 $\frac{3}{4}$	255	11	13 0
43	Yamani ...	10 0 0	3 $\frac{3}{4}$	266	...	16 8
<i>Deccani.</i>						
1	Ghevadi ...	15 0 0	2 $\frac{3}{4}$	618	417	10 6
2	Kevada ...	14 0 0	2 $\frac{3}{4}$	312	722	9 6
3	Chandri ...	16 0 0	2 $\frac{3}{4}$	722	313	11 11
4	Rumáli ...	13 0 0	2 $\frac{3}{4}$	484	549	9 4
5	Hira ...	13 0 0	2 $\frac{3}{4}$	712	323	9 11
6	Hangámi ...	15 0 0	2 $\frac{3}{4}$	649	386	8 0
7	Nandi ...	11 0 0	2 $\frac{5}{8}$	537	498	15 14
8	Gharol ...	11 0 0	2 $\frac{5}{8}$	458	577	10 5
9	Laháni ...	10 0 0	1 $\frac{1}{8}$	59	...	6 8

NOTE.—The average yearly yield per buffalo comes to 1,988 lbs., the average daily yield to 5 lbs. 7 ozs., the average cost of feeding per buffalo to Rs. 113-1-0, and the average net profit per buffalo Rs. 34-13-2.

Explanation of figures given in columns 7, 9, 11, 12 and 13 is the same as given below the statement of cows.

shown in column 4.		Yield of milk during 1908-09.	Financial results for total period shown in column 4.					Remarks.
Average daily yield of milking period.	Yearly average output.		Value of milk.	Cost of feeding.	Cost of attendance.	Net profit.	Average net profit per year.	
8	9	10	11	12	13	14	15	16
Lbs. oz.	Lbs.	Lbs. oz.	Rs.	Rs.	Rs.	Rs.	Rs.	
13 12	3,505	4,316 12	876	508	80	288	96	
14 6	4,226	3,283 12	561	283	52	226	143	
12 5	3,625	2,864 8	479	308	44	127	80	
10 9	1,828	367 8	723	343	41	339	71	
18 10	...	4,929 8	411	189	34	188	...	New.
15 5	...	4,035 4	336	169	28	139	...	Do.
10 6	...	2,731 12	228	154	29	45	...	Do.
8 8	...	2,144 8	179	168	15	—4	...	Loss; new.
13 0	...	3,433 0	286	155	24	107	...	New.
6 6	...	1,316 8	110	137	9	—36	...	Do.; died.
8 1	...	2,132 8	178	134	15	29	...	Do.
7 10	...	1,934 8	161	150	13	—2	...	Do.; loss.
11 6	...	3,008 4	251	145	21	85	...	Do.
6 15	1,513	2,088 12	356	313	30	13	5	
6 3	809	407 4	160	211	14	—65	—23	Loss.
7 12	1,971	1,745 4	465	377	42	46	16	
6 14	1,175	788 4	277	256	25	—4	—1	Loss.
6 6	1,603	1,718 4	378	368	35	—25	—9	Do.
6 1	1,395	2,228 4	330	308	28	—6	—2	Do.
7 9	1,432	1,3 12	337	253	32	52	16	
7 15	1,281	1,263 4	302	272	28	2	1	
5 0	...	294 12	25	17	2	6	...	New.

V.—STRENGTH OF THE HERD.

6. The statement below shows the strength of the herd on 1st April 1909 as compared with that on 1st April 1908.

From the figures in the statement it will be seen that the total number of cattle on 1st April 1909 is in excess by 25, of what it was on the same date last year. Among the cattle sold, only those buffaloes yielding very low quantity of milk were disposed of. To meet the demand for milk, 12 buffaloes (1 Jaffrabadi, 2 Delhi, 8 Surati and 1 Deccani) were purchased.

Description.	Strength on 1st April 1908.	Increase.			Decrease.				Strength on 1st April 1909.	Valuation.		Increase or decrease during the year.	Remarks.
		Purchased or transferred.	Born.	Total.	Sold.	Died.	Transferred.	Total.		1908.	1909.		
<i>Cows.</i>	No.	No.	No.	No.	No.	No.	No.	No.	No.	Rs.	Rs.	Rs.	
Stgd-bulls...	9	1	...	1	...	...	...	...	10	600	610	+10	
Cows ...	46	4	...	4	...	3	...	3	47	2,660	3,025	+365	
Heifers ...	2	4	...	4	...	...	2	2	4	70	150	+80	
Cow-calves ...	40	...	14	14	5	4	4	13	41	427	310	-117	
Bull-calves ...	22	...	18	18	12	4	1	17	23	210	175	-35	
Total ...	119	9	32	41	17	11	7	35	125	3,667	4,270	+303	
<i>Buffaloes.</i>													
Buffalo-bulls ...	3	1	...	1	...	...	...	...	4	175	155	-20	
She-buffaloes ...	48	14	...	14	2	5	...	7	55	2,385	3,337	+952	
Heifers ...	3	5	...	5	...	...	2	2	6	100	150	+50	
Buffalo-cow-calves	30	3	11	14	3	7	5	15	29	175	100	-75	
Buffalo-bull-calves	9	3	16	19	4	6	...	10	18	45	60	+15	
Total ...	93	26	27	53	9	18	7	34	112	2,880	3,802	922	
Dairy cart-horses.	2	...	...	...	...	...	...	...	2	200	175	-25	

VI.—BREEDS KEPT.

7. The breeds kept on the farm are, among cows, (1) Karachi or Sindhi, (2) Aden and (3) Gir; and among buffaloes, (1) Jaffrabadi, (2) Delhi, (3) Kaira or Surati and (4) Varādi or Deccani.

The number of farm-bred heifers and cows is 32.

8. *Breeding bulls.*—The three breeds—Sindhi, Gir and Aden are kept on the farm.

VII.—SERVICE OF BULLS.

9. Free service of bulls is given to the healthy animals of the public. During the year under report 25 cows and 19 buffaloes belonging to private persons were covered. Of the number of cows, 10 were covered by Aden and 15 by Sindhi bulls. Also of the 19 buffaloes, 8 by Jaffrabadi and 11 by Surati.

VIII.—FODDER-CROPS.

10. Fodder was grown on Mr. Wadia's land measuring 16 acres 21 gunthas, adjoining the Civil Dairy. The land was rented for Rs. 300 for the year. The results of the several fodders grown are shown in the statement appended :—

Field. No.	Name of crop.	Area.	Date of sowing.	Date of cutting.	Per acre.		Cost of 100 lbs. of fodder.
					Outturn of fodder.	Cost of cultivation.	
		A. g.			Lbs.	Rs. a. p.	Rs. a. p.
1	Bajri and Chavli ...	1 24	11th July 1908 ...	3rd October 1908 .	2,781	6 7 9	0 3 8
2	Nilwa Jowár ...	2 15	22nd August 1908.	20th October 1908.	3,019	6 5 0	0 3 4
3	Do. ...	2 16	23rd August 1908.	26th October 1908.	2,034	4 7 8	0 3 6
4	Do. ...	1 28	21st August 1908.	20th October 1908.	8,052	11 7 6	0 2 3
5	Do. ...	0 31	21st August 1908.	1st November 1908.	7,632	10 14 6	0 2 3
6 & 7	Do. ...	1 32	7th August 1908 .	30th October 1908.	6,824	12 1 4	0 2 10
8	Sorghum Jowár ...	1 21	12th August 1908.	20th November 1908.	7,728	6 6 3	0 1 4
9	Shalu Jowár ...	2 20	26th October 1908.	12th January 1909.	2,981	9 5 4	0 5 0
4 & 5	Maize ...	2 21	31st January 1909	30th April 1909 ...	3,914	14 5 0	0 6 11

11. Since the abolition of the Poona Farm as an experimental station it has been handed over to the Civil Dairy for fodder raising. Out of the total area of 38 acres 5 gunthas under fodder, during the year under report, 7 acres 31½ gunthas was down to perennial fodder, guinea grass, the rest of the area being cropped with several fodders.

Guinea grass produced on an average 15,458 lbs. of green fodder per acre ; maize gave 21,300 lbs., when cut green, and 4,313 and 500 lbs. ears, when allowed to ripen for seed ; sorghums yielded on an average 16,341 lbs. ; sundhia, beating all others, has produced an enormous outturn of 24,580 lbs. per acre. The average for finer forage-crops, such as barley, oats, etc., is 8,402 lbs.

The average cost of cultivation per acre of guinea grass is Rs. 67-5-0; of maize 34-4-0; of sorghum 24-8-0; and of finer forage-crops Rs. 31-10-0.

12. The average cost of raising 100 lbs. of fodder of different kinds is given in the following statement for comparison :—

Fodder.				Cost.		
				Rs.	a.	p.
Guinea grass	...	...	...	0	8	0
Maize	...	...	...	0	2	7
Sorghum	...	...	...	0	2	4
Fine forage-crops (oats, barley, etc.)	...	...	...	0	6	0

From the above figures it will be seen that maize and sorghums are the cheapest of all. Guinea grass, though costing higher, has the advantage of thriving over lighter soils or under shade, where maize or sorghums cannot be profitably grown.

13. The statement below shows the results of the fodder area.

Field No.	Name of crop.	Area.	Per acre.		Cost of 100 lbs. of the fodder.	Date of sowing.	Date of cutting.	Remarks.
			Outturn of fodder.	Cost of cultivation.				
1	2	3	4	5	6	7	8	9
		A. g.	Lbs.	Rs. a. p.	Rs. a. p.			
4	Hundi Jowár ...	2 8	26,000	34 6 0	2 1	9th April 1908 ...	22nd June 1908.	
5	Sundhia Jowár .	0 39	22,669	18 15 6	0 1 4	10th July 1908 ..	5th September 1908.	
5	Maize ...	0 15	15,018	58 8 0	0 8 3	10th February 1908.	24th April 1908.	
10	Do. ...	0 34	31,339	36 13 4	0 1 11	29th April 1908 ..	12th July 1908.	
7	Nilwa Jowár ...	0 35	14,713	16 6 0	0 1 9	15th August 1908.	15th October 1908.	
8	Maize ...	1 0	22,100	32 8 0	0 2 4	30th April 1908..	30th July 1908.	
9	Sundhia Jowár .	1 35	* 2,880 7746	46 12 0	1 9 11	7th July 1908 ..	10th November 1908.	* Dry fodder ; † Seed.
15	Maize ...	2 20	†11,861 \$1,378 cobs.	60 11 6	0 8 2	8th October 1908.	1st January 1909.	† Semi-dried fodder ; ‡ Seed.
16	Peas and Oat ...	2 25	¶14,787 1600	52 9 0	0 5 8	21st October 1908.	10th January 1909.	¶ Green-fodder ; || Seed.
2	Maize ...	1 30	25,228	39 2 3	0 2 6	10th July 1908 ..	20th September 1908.	
6	Shālu Jowár ...	1 0	3,293	23 3 6	0 11 3	27th October 1908.	22nd February 1909.	
3	Sundhia Jowár .	0 20	16,540	43 2 0	0 4 2	22nd July 1908 ...	29th September 1908.	
11	Maize ...	2 11	26,722	44 13 4	0 2 9	5th August 1908 .	17th October 1908.	
12	Sundhia Jowár .	0 33	**3,806 ††2,746 11600	51 5 0	0 14 10	7th August 1908 .	13th October 1908.	**Green ; †† Dry-fodder ; †† Seed.
4	Maize ...	0 15	26,816	19 2 6	0 1 1	23rd July 1908 ...	26th September 1908.	

Field No.	Name of crop.	Area.	Per acre.		Cost of 100 lbs. of the fodder.	Date of sowing.	Date of cutting.	Remarks.
			Outturn of fodder.	Cost of cultivation.				
1	2	3	4	5	6	7	8	9
		A. g.	Lbs.	Rs. a. p.	Rs. a. p.			
13	Nilwa Jowár ...	0 34	9,007	40 0 0	0 7 1	14th August 1908.	28th October 1908.	
8	Peas and Oat ...	1 0	15,633	33 8 0	0 3 11	13th November 1908.	6th February 1909.	
4	Hundi Ratoon...	2 8	4,417	2 9 9	0 0 11	.....	5th October 1908.	Hundi was sown in April and the Ratoon crop was taken in kharif; hence shown under kharif.
2	Maize ...	1 30	12,307	57 8 10	0 7 4½	2nd January 1909.	18th March 1909.	
3	Do. ...	0 20	34,826	49 0 0	0 2 3	24th November 1908.	21st February 1909.	
11	Khapli ...	2 11	*3,457 †439.	30 3 6	0 14 1	3rd January 1909.	9th March 1909...	*Green; † Seed.
12	Barley ...	0 15	3,163	35 8 0	1 2 0	20th January 1909.	30th March 1909.	
1	Guinea Grass ...	1 10	9,963	46 1 3	0 7 5	.....	.....
2	Do. ...	0 4½	11,822	51 12 1	0 7 0	.....	.....
6	Do. ...	0 12	9,970	44 3 2	0 7 2	.....	.....
7	Do. ...	0 18	11,331	48 4 3	0 6 10	.....	.....
8	Do. ...	0 27	3,639	41 4 0	1 1 2	.....	.....	Very old plantation.
9	Do. ...	0 18	10,031	40 13 4	0 6 6	.....	.....
10	Do. ...	2 28	10,403	27 3 0	0 4 6	.....	.....
15	Do. ...	0 9½	10,227	46 0 10	0 7 2	.....	.....
16	Do. ...	0 3	11,413	51 4 0	0 7 4	.....	.....
3	Do. ...	0 4½	11,200	56 12 2	0 8 2	.....	.....
4	Do. ...	1 17	4,103	68 6 2	1 10 8	Plantation started this year.

J. B. KNIGHT,
Professor of Agriculture.

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1909/10

Department of Agriculture, Bombay.

ANNUAL REPORT

OF THE

KIRKEE CIVIL DAIRY

(Poona District, Deccan)

FOR THE YEAR

1909-1910

BY

J. B. KNIGHT, M.Sc., B.Sc.,

Professor of Agriculture.

BOMBAY

PRINTED AT THE GOVERNMENT CENTRAL PRESS

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THE KIRKEE CIVIL DAIRY, 1909-10.

I.—INTRODUCTION.

The objects of the Dairy are :—

- (1) To afford instruction for the students of the College of Agriculture, Poona.
- (2) To serve as a model dairy to the public.
- (3) To give opportunity for experiments in feeding and dairying.
- (4) To improve dairy breeds.
- (5) To supply pure milk to the invalids and children of Poona and Kirkee.

II.—HEALTH OF ANIMALS.

2. The health of the herd has been good except that of young calves.

III.—MILK SUPPLY.

3. The year's supply of milk amounted to 232,687 lbs. 12 oz. which being insufficient to meet the local demands, many customers had to be dropped to enable the Dairy to comply with the demands for infants, invalids and the sick in the Sassoon Hospital. The Sassoon Hospital contract was continued on the same terms as last year.

4. Arrangements for supplying special milk for infants have been continued. The demand for this milk is very great but owing to the requirements of the Sassoon Hospital being high, it is impossible to meet the demand with the present herd and customers have to be refused. The cows selected for this purpose are specially fed, oilcake, cotton seed and green fodder being excluded and the animals not allowed to graze. They are fed principally on hay, bran, chunni and gram.

IV.—YIELD OF MILK.

5. It will be seen from the following statements that among cows and buffaloes, the cattle named below produced the highest yield of milk in each breed in the year under report :—

No.	Name of cattle.			Breed.			Yield of milk.	
	Cows.						Lbs.	oz.
1	Sansari	...	...	Aden	...	...	4,256	0
2	Bhavli	...	...	Gir	...	...	4,095	0
3	Pandhari	...	...	Do.	...	...	3,687	0
4	Mohan	...	...	Sindhi	...	...	3,607	0
5	Daulat Pitambari	...	...	Do.	...	...	3,071	0
6	Pitambari	...	...	Do.	...	...	3,040	0
7	Mungli	...	...	Sindhi-Cross	...	...	3,192	0
	BUFFALOES.							
1	Genda	...	...	Surati	...	...	4,982	12
2	Bhillan	...	...	Delhi	...	...	4,543	8
3	Godi	...	...	Delhi-Cross	...	...	4,039	12
4	Rattan	...	...	Jaffrabadi	...	...	3,204	0
5	Chandri	...	...	Deccani	...	...	2,018	0

Statement showing record of milk of each animal during 1909-10.

No.	Name.	Age.	Total number of years under observation.	Results during period shown in column 4.					Yield milk during 1909-10.	Value of milk during period shown in column 4.	Remarks.
				Total number of days in milk.	Total dry days.	Average of maximum daily yield.	Average daily yield.	Yearly average output.			
1	2	3	4	5	6	7	8	9	10	11	12
	I.—Cows.	Y. m. d.				Lbs. oz.	Lbs. oz.	Lbs.	Lbs. oz.	Rs.	
	<i>Adens.</i>										
1	Bhāgl ...	Aged ...	11	3,010	944	13 7	7 11	2,816	3,102 0	2,670	
2	Kāshi ...	9 0 0	2½	462	336	...	2 0	697	9 4	188	Sold.
3	Pārvati ...	11 0 0	2½	622	485	9 10	4 0	1,418	1,490 4	324	
4	Sansāri ...	Aged ...	3	828	268	18 10	8 6	2,966	4,256 0	742	
5	Shiti (Hybrid) .	6 8 0	3½	966	259	13 15	7 3	2,621	2,237 12	632	
6	Daulati Harshi.	Young ..	3½	85	...	...	5 15	...	500 0	72	Sold.
	<i>Sindhi.</i>										
1	Ambi ...	9 4 20	4½	563	478	...	3 9	1,314	...	484	Sold.
2	Annapurna ...	10 3 25	6	1,142	836	6 13	2 15	1,083	80 8	550	Sold.
3	Bhasmi ...	13 11 22	10	2,281	1,370	14 7	5 11	2,075	356 4	1,825	
4	Balākhi ...	6 9 16	3½	1,251	...	12 9	4 3	1,539	974 4	854	
5	Houshi ...	15 0 0	8	1,793	128	14 9	8 11	3,174	1,872 4	2,251	
6	Kanai ...	16 0 0	8	1,531	838	...	4 10	1,697	...	1,237	Sold.
7	Khilari ...	7 4 4	4½	1,309	243	12 14	6 13	2,501	3,129 12	854	
8	Lahiri ..	13 0 0	8	2,230	691	16 3	3 11	1,335	1,372 8	1,531	
9	Mori ...	14 0 0	8	2,350	571	14 14	7 5	2,662	2,632 8	1,854	
10	Mohan ...	7 2 27	3	1,104	...	17 12	9 12	3,584	3,607 0	900	
11	Mutri ...	9 8 18	5½	1,723	362	17 15	6 7	2,360	1,505 0	1,109	
12	Pāri ...	17 0 0	10	2,694	957	14 5	3 15	1,443	2,293 0	2,059	
13	Piri ...	14 2 29	11	3,331	685	13 7	7 4	2,653	2,994 4	2,582	
14	Pitāmbari ...	14 7 18	11	3,654	362	18 4	9 5	3,400	3,040 8	3,207	
15	Polāri ...	14 0 0	10	2,556	1,095	12 1	5 9	2,032	2,076 8	1,765	
16	Soni ...	7 2 22	4½	1,037	387	9 11	6 9	2,403	1,077 12	852	
17	Sukhi ...	10 10 4	6½	1,872	624	12 12	3 12	1,376	1,554 8	1,272	
18	Tambori ...	10 10 4	8	1,995	923	11 5	5 3	1,901	552 12	1,349	Sold.
19	Zanar ..	17 0 0	8	2,445	466	19 1	9 8	3,462	2,134 4	2,408	
20	Dawlat Pitāmbari.	Young ...	1½	439	...	14 12	8 7	3,084	3,071 8	311	
	<i>Sindhi-Cross.</i>										
1	Kara ...	12 8 10	9	1,937	1,349	14 8	5 9	2,016	1,854 4	1,591	
2	Mungli ...	8 2 3	4½	1,539	1	16 10	9 5	3,498	3,192 0	1,211	
3	Shendi ...	9 3 19	4½	1,501	72	14 1	8 4	3,000	2,446 4	1,100	
4	Yeshi ...	11 0 0	5½	1,930	224	16 1	7 11	2,823	2,639 12	1,421	

No.	Name.	Total number of years under observation.	Age.	Results during period shown in column 4.					Yield of milk during 1900-10.	Value of milk during period shown in column 4.	Remarks.
				Total number of days in milk.	Total dry days.	Average maximum daily yield.	Average daily yield.	Yearly average output.			
1	2	3	4	5	6	7	8	9	10	11	12
	I.—Cows— <i>continued.</i> <i>Gir.</i>	Y. m. d.				Lbs. oz.	Lbs. oz.	Lbs.	Lbs. oz.	Rs.	
1	Bhavali ...	14 0 0	5½	1,236	681	17 3	7 4	2,643	4 095 4	1,191	
2	Budhi ...	12 0 0	5½	1,211	702	16 8	6 3	2,265	2,096 4	1,010	
3	Gavalan ...	17 0 0	2½	406	384	12 7	4 7	1,612	1,299 4	291	
4	Ghodmukhi ...	18 0 0	2½	529	261	11 0	4 11	1,721	2,571 8	310	
5	Godi ...	14 0 0	6½	1,919	332	14 7	7 0	2,557	1,524 8	1,373	
6	Kabutar ...	Young ...	2½	90	598	7 15	0 9	205	...	50	Sold.
7	Kajali ...	14 0 0	3½	951	409	13 9	6 0	2,182	2,189 12	681	
8	Kamali ...	14 0 0	5½	1,280	703	14 1	5 12	2,101	2,280 0	947	
9	Lahiri ...	10 0 0	5½	1,609	379	14 4	7 2	2,603	1,922 0	1,175	
10	Mahali ...	12 0 0	3½	1,061	308	12 9	6 3	2,251	2,180 8	703	
11	Mukharan ...	15 0 0	5½	1,331	530	16 4	6 6	2,321	1,683 0	595	
12	Narbadi ...	17 0 0	5½	822	806	...	2 2	776	...	402	Sold.
13	Pavali ...	14 0 0	5½	1,372	617	12 6	5 2	1,872	1,175 0	844	
14	Umbari ...	18 0 0	4½	715	919	...	2 12	996	...	531	Sold.
15	Pándhari ...	6 0 0	1½	425	...	20 12	10 3	3,724	3,687 4	362	
16	Narmadi ...	10 0 0	½	173	...	4 8	3 0	...	524 0	44	
17	Abdagir ...	10 0 0	½	173	...	17 12	12 5	...	2,127 0	177	
18	Kusum ...	7 0 0	½	162	...	11 0	8 8	...	1,381 0	115	
	<i>Gir Cross.</i>										
1	Bigul ...	14 10 11	11	3,052	900	13 8	6 3	2,256	1,726 4	2,117	
2	Ahmedabadi ...	4 6 0	7½	221	...	...	8 7	...	1,659 4	155	
3	Chárodí ...	5 0 0	1½	335	90	13 11	6 12	2,461	2,285 8	239	

NOTE.—The average yield per cow comes to 1,809 lbs. and the daily average to 4 lbs. and 15 oz.

Column 7.—The maximum days yield of the year is always quoted at a sale as an indication of an animal's productivity and the average of these record yields for the whole period of observation is here given as affording a fair basis for comparison between the various animals in milk.

Column 9.—Gives the average for the whole period including dry days.

Statement showing record of milk of each animal during 1909-10.

No.	Name.	Age.	Total number of years under observation.	Results during period shown in column 4.					Yield of milk during 1900-10.	Value of milk during period shown in column 4.	Remarks.
				Total number of days in milk.	Total dry days.	Average of maximum daily yield.	Yearly average output.	Yearly average output.			
1	2	3	4	5	6	7	8	9	10	11	12
II.—BUFFALOES.		Y, m. d.				Lbs. oz.	Lbs. oz.	Lbs.	Lbs. oz.	Rs.	
Jafraabadi.											
1	Kundal ...	17 0 0	7	1,391	1,165	14 9	6 6	2,338	2,614 0	1,347	
2	Ratan ...	18 0 0	7	1,920	623	20 15	9 13	3,593	3,204 8	2,062	
3	Zabula ...	10 0 0	1½	412	227	21 0	7 13	2,874	907 0	419	
Delhi.											
1	Rambha ...	16 11 0	11	...	...	...	...	...	...	...	Died.
2	Sálu ...	20 0 0	5½	1,092	491	...	...	2,061	37 8	966	Died.
3	Godi (cross) ...	8 0 0	3½	945	296	...	9 3	3,359	4,039 12	957	
4	Lándi ...	8 0 0	1½	403	...	12 12	9 0	3,256	3,378 12	313	
5	Bhivara ...	14 0 0	1½	194	437	2 6	...	837	...	163	
6	Nemád ...	10 0 0	1½	420	211	20 5	6 12	2,460	1,604 12	350	
7	Abrak ...	.....	½	174	...	18 4	4 4	...	1,553 12	129	
8	Asman ...	.....	½	174	...	22 12	14 4	...	2,702 4	225	
9	Bhillan ...	.....	5	284	...	27 12	15 2	...	4,543 8	370	
10	Mewa ...	.....	½	170	...	25 4	16 1	...	2,096 0	250	
11	Roundali ...	.....	½	170	...	20 4	15 0	...	2,759 12	228	
12	Shingar ...	.....	½	174	...	24 0	12 4	...	2,339 0	185	
13	Subedar ...	.....	½	174	...	18 8	12 10	...	2,296 12	191	
Surat.											
1	Aditwari ...	15 0 0	5½	1,545	502	13 10	6 13	2,497	2,537 4	1,142	
2	Barshi ...	16 0 0	7	1,435	1,071	18 5	6 2	2,200	1,840 12	1,002	
3	Báyaja ...	18 6 24	11	2,510	1,284	13 8	5 8	2,009	54 0	1,738	Sold.
4	Bhavari ...	14 0 0	5½	1,457	594	13 6	6 4	2,272	1,137 8	1,066	
5	Bhori ...	Aged ...	10½	2,918	885	...	7 0	2,547	...	2,205	Sold.
6	Chhabeli ...	17 9 11	11	2,621	1,425	14 4	7 7	2,706	3,395 8	2,371	
7	Dinak ...	14 0 0	2½	400	318	12 0	5 5	1,058	2,193 0	333	
8	Ghabina ...	5½	5½	1,385	481	15 7	7 0	2,548	2,063 0	1,078	
9	Gajari ...	19 0 0	11	2,850	1,173	15 12	6 14	2,518	2,424 12	2,200	
10	Gavara ...	16 0 0	2½	603	182	16 10	7 0	2,765	3,325 4	500	
11	Ghari ...	18 0 0	11	2,793	1,214	16 4	3 10	1,353	715 4	593	
12	Ghesáli ...	14 0 0	5½	953	1,002	10 8	3 15	1,434	1,615 12	668	Sold.
13	Gujar ...	22 0 0	11	2,519	1,493	13 6	5 4	1,910	1,341 12	1,664	Sold.

No.	Name.	Age.	Total number of years under observation.	Results during period shown in column 4.					Yield of milk during 1909-10.	Value of milk during period shown in column 4.	Remarks.
				Total number of days in milk.	Total dry days.	Average of maximum daily yield.	Average daily yield.	Yearly average output.			
1	2	3	4	5	6	7	8	9	10	11	12
	II.—BUFFALOES —continued.	Y. m. d.				Lbs. oz.	Lbs. oz.	Lbs.	Lbs. oz.	Rs.	
	Surat—contd.										
14	Jamádár ...	17 3 27	11	2,005	1,247	14 9	6 7	2,353	1,577 12	2,064	
15	Kaveri ...	17 3 17	11	3,037	925	18 10	9 3	3,372	2,811 4	2,972	
16	Máyani ...	12 0 0	4 ⁵ / ₂	1,142	292	20 7	4 13	1,754	1,372 0	645	
17	Mahajáni ...	6 0 0	2 ³ / ₅	731	233	11 9	9 15	3,610	3,377 4	802	
18	Mori ...	15 0 0	5 ⁷ / ₂	1,536	511	14 15	8 15	3,193	2,011 8	620	
19	Nishán ...	10 0 0	2 ⁷ / ₂	730	215	17 11	8 13	3,139	2,654 12	675	
20	Parli ...	17 0 0	11	2,820	1,186	14 1	5 13	2,123	1,006 0	1,864	
21	Patangi ...	15 0 0	5 ⁷ / ₂	1,303	678	16 13	8 8	3,016	1,582 0	1,321	
22	Phoug ...	12 0 0	2	239	493	...	...	895	...	236	Sold.
23	Putali ...	20 0 0	10	2,270	1,164	...	5 9	2,023	514 4	1,566	Do.
24	Ranga ...	15 0 0	8	1,845	1,072	18 0	7 4	2,647	4,207 12	1,737	
25	Rupi ...	14 0 0	5	1,335	853	...	...	2,031	446 4	989	Died.
26	Sajani ...	10 0 0	4	971	400	20 14	5 6	3,902	4,034 0	1,209	
27	Sardal ...	12 0 0	2 ⁷ / ₂	615	415	19 15	9 15	3,631	2,688 0	785	
28	Sáyani ...	8 0 0	2 ⁷ / ₂	638	307	15 10	6 10	2,427	530 4	523	
29	Tayali ...	11 0 0	5 ³ / ₂	1,182	916	13 9	5 10	2,043	3,092 0	931	
30	Lavangi ...	12 0 0	1 ³ / ₂	523	103	24 10	14 6	5,241	4,243 0	765	
31	Mogra ...	11 0 0	1 ³ / ₂	429	202	21 0	9 15	3,569	2,211 8	520	
32	Navasari ...	8 0 0	1 ³ / ₂	372	259	17 8	4 13	1,766	353 4	257	
33	Poládi ...	13 0 0	1 ¹ / ₂	619	12	15 1	6 3	2,271	1,830 0	331	
34	Shitáp ...	10 0 0	1 ³ / ₂	274	267	16 8	7 0	2,532	997 12	369	
35	Jamui ...	11 0 0	1 ³ / ₂	384	247	13 6	4 15	1,801	1,019 12	263	
36	Tura ...	9 0 0	1 ³ / ₂	504	127	13 8	4 14	1,794	1,505 8	310	
37	Yamni ...	11 0 0	1 ¹ / ₂	496	125	14 15	8 3	2,912	2,087 12	425	
38	Agaja ...	.....	⁵ / ₈	289	...	24 4	14 5	...	4,290 4	357	
39	Anján ...	.....	⁵ / ₈	289	...	22 4	11 15	...	3,593 12	299	
40	Dhavalal ...	.....	⁵ / ₈	281	...	23 4	10 9	...	3,165 0	264	
41	Gajara ...	.....	⁵ / ₈	289	...	24 12	13 0	...	3,891 12	324	
42	Genda ...	.....	⁵ / ₈	289	...	27 4	13 4	...	4,932 12	415	
43	Liji ...	.....	⁵ / ₈	174	...	23 12	16 9	...	3,021 12	252	
44	Mastani ...	.....	⁵ / ₈	153	...	11 8	9 9	...	1,429 8	119	
45	Sunder ...	.....	⁵ / ₈	174	...	16 0	11 9	...	2,102 0	175	
46	Ganga ...	.....	⁵ / ₈	174	...	17 4	13 3	...	2,405 0	300	

No.	Name.	Age.	Total number of years under observation.	Results during period shown in column 4.					Yield of milk during 1909-10.	Value of milk during period shown in column 4.	Remarks.
				Total number of days in milk.	Total dry days.	Average of maximum daily yield.	Average daily yield.	Yearly average output.			
1	2	3	4	5	6	7	8	9	10	11	12
	II.—BUFFALOES —continued.	Y. m. d.				Lbs. oz.	Lbs. oz.	Lbs.	Lbs. oz.	Rs.	
	Deccani.										
1	Ghewada ...	16 0 0	3½	832	568	10 11	4 4	1,565	1,713 12	400	
2	Kewada ...	15 0 0	3½	461	725	9 3	2 6	875	1,023 0	245	Sold.
3	Chandri ...	17 0 0	3½	949	451	12 2	5 7	1,934	2,018 0	633	
4	Ramali ...	14 0 0	3¼	484	701	2 5	...	814	...	277	Sold.
5	Ilira ...	14 0 0	3¼	805	382	7 15	3 4	1,195	278 0	401	Do.
6	Hungani ...	16 0 0	3½	740	651	8 14	3 4	1,200	648 4	384	
7	Nandi ...	12 0 0	3½	690	710	13 13	3 11	1,356	1,138 12	432	
8	Gharul ...	12 0 0	3¼	496	701	9 8	2 6	909	72 12	308	Sold.
9	Lahani ...	11 0 0	1½	205	120	5 4	1 0	...	515 4	68	Died.

The yearly average yield per cow comes to 1,798 lbs. and the daily average to 5 lbs. 7 oz.

V.—STRENGTH OF THE HERD.

The statement below shows the strength of the herd on the 1st April 1910 as compared with that on 1st April 1909.

From the figures in the statement it will be seen that the total number of cattle on the 1st April 1910 is 10 in excess of what it was on the same date last year. Three cows and 15 buffaloes were purchased during the year and 9 cows and 10 buffaloes were sold.

Statement showing the strength of the herd on 1st April 1910, as compared with that on 1st April 1909 :—

Description.	Strength on 1st April.	Increase.			Decrease.				Strength on 1st April 1910.	Valuation.		Increase or decrease during the year.	Remarks.
		Purchased or transferred.	Born.	Total.	Sold.	Died.	Transferred.	Total.		1909.	1910.		
<i>Cows.</i>	No.	No.	No.	No.	No.	No.	No.	No.	No.	Rs.	Rs. a. p.	Rs. a. p.	
Stud-bulls ...	10	2*	...	2	1	...	...	1	11	610	694 1 7	+84 1 7	* 2 Bull calves to stud-bulls.
Cows ...	47	4†	...	4	9	...	...	9	42	3,025	2,705 11 9	-319 4 3	† 3 Cows purchased and 1 transferred from heifers.
Heifers ...	4	5	...	5†	...	...	1	1†	8	150	415 0 0	+265 0 0	
Cow-calves ...	41	5	12	17	2	4	5‡	11	47	310	1,190 0 0	+705 0 0	‡ 5 Calves transferred to heifers.
Bull-calves ...	23	1	22	23	12	3	2*	17	29	175			
Total ...	125	17	34	51	24	7	8	39	137	4,270	5,004 13 4	+734 13 4	
<i>Buffaloes.</i>													
Buffalo-bulls ...	4	...	...	...	...	...	...	...	4	155	155 0 0	.....
She-buffaloes ...	55	16§	...	16	10	4	...	14	57	3,337	4,896 4 9	+1,559 4 9	§ 15 Buffs purchased and 1 transferred from heifers.
Heifers ...	6	1	...	1	...	...	1	...	6	150	420 0 0	+270 0 0	
Buffaloe-cow-calves.	29	6	14	20	4	18	1¶	23	26	100	400 0 0	+240 0 0	¶ To heifers.
Buffaloe-bull-calves.	18	8	16	24	6	19	...	25	17	60			
Total ...	112	31	30	61	20	41	2	62	110	3,802	5,871 4 9	+2,069 4 9	
Dairy cart-houses.	2	...	...	...	...	...	...	...	2	...	...	.....

VI.—BREEDS KEPT.

The breeds kept on the farm are among cows:—

(1) Karáchi or Sindhi, (2) Aden and (3) Gir: among buffaloes, (1) Jaffrabadi, (2) Murrah or Delhi, (3) Kaira or Surati, (4) Varadi or Deccani.

The number of farm bred heifers and cows is 37.

8. *Breeding bulls.*—The three breeds—Sindhi, Gir and Aden—are kept on the farm and Buffaloe-Bulls Jaffrabad and Surati.

VII.—SERVICE OF BULLS.

9. Free service of bulls is given to the healthy animals of the public. During the year under report 22 cows and 26 buffaloes belonging to private persons were covered. Of the number of cows 10 were covered by Aden, 1 by Sindhi and 11 by Gir bulls. Of the buffaloes none by Jaffrabadi and 26 by Surati.

VIII.

Fodder was grown on the farm lands measuring 38 acres 5 gunthas. The results of the several fodders grown are shown in the following statements:—

First Crop.

Field No.	Plot No.	Area.	Name of crop.	Outturn.	Cost of cultivation.	Cost of 10 lbs. of the fodder.	Date of sowing.	Date of harvesting.	Remarks.
		A. g.		Lbs.	Rs. a. p.	Rs. a. p.			
7	1	0 35	Maize ...	12,535	65 13 0	0 8 5	13th January 1909.	1st April 1909.	
9	...	1 35	Clotalario ...	5,000	60 2 6	1 0 4	21st February 1909.	25th April 1909.	
10	2	0 34	Maize ...	19,018	55 7 6	0 4 5	10th April 1909.	June 1909.	
5	1	0 30	Bajri ...	12,652	23 13 0	0 3 0	April 1909.	June 1909.	
15	1	2 20	Sundia ...	57,515	110 0 0	0 2 3	1st July 1909 ...	24th August 1909.	
16	1	2 30	Maize ...	52,157	107 2 0	0 3 3	21st July 1909...	12th Sept. 1909.	
4	1	2 8	Wheat ...	100 seed. 13,056 fodder.	81 10 0	0 10 0	23rd Jan. 1909.	May 1909.	
17	...	1 0	Maize ...	14,759	27 12 0	0 3 0	June 1909.	Sept. 1909.	
13	..	0 10	Maize ...	2,974	7 15 0	0 4 4	24th June 1909.	9th September 1909.	
2	...	1 30	Maize ...	21,538	100 11 6	0 7 6	January ...	March.	
3	...	0 15	Peas for seed ...	75	14 9 6	19 7 4	January ...	May.	
10		0 20	Lucerne ...	27,534	50 0 0	0 2 11	April ...	24th October.	
13	...	0 15	Sugarcane ...	9,564	43 8 6	0 7 3	.....	.....
1	...	1 19	Guinea grass ...	2,121	48 14 0	0 3 5	.....	.....	Mango plan-
4	...	1 27	Do. ...	23,491	54 0 6	0 3 8	.....	.....	tation.
6	...	0 12	Do. ...	3,179	8 8 6	0 4 4	.....	.....

Second Crop.

Field No.	Plot No.	Area.	Name of crop.	Outturn.	Cost of cultivation.	Cost of 10 lbs. of the fodder.	Date of sowing.	Date of Harvesting.	Remarks.
		A. g.		Lbs.	Rs. a. p.	Rs. a. p.			
7	1	0 35	Utawali ...	6,274	22 5 0	0 5 4	18th September 1909.	7th December 1909.	
9	...	1 35	Maize ...	20,698	27 10 0	0 2 2	20th August 1909.	26th October 1909.	
11	...	2 10	Utawali ...	36,801	63 8 6	0 2 9	1st August 1909	10th October 1909.	
10	2	0 34	Peas and oats .	8,662	66 2 6	0 12 3	20th October 1909.	20th January 1910.	
5	...	1 0	Maize ...	18,683	42 9 0	0 3 8	December 1909.	February 1910.	
15	...	1 10	Peas and oats .	16,658	60 7 0	0 7 8	21st December 1909.	1st March 1910.	
..	...	1 17	Maize ...	10,849	90 0 0	0 13 6	12th January 1910.	1st April 1910.	
16	1	2 30	Do. ...	25,196	150 15 0	0 9 7	15th February 1910.	1st May 1910.	
4	1	2 8	Do. ...	29,452	135 11 0	0 7 4	11th September 1909.	26th November 1909.	
...	..	0 30	Do. ...	13,124	42 2 0	0 5 1	1st November 1909.	2nd January 1910.	
...	...	1 30	Nilwa ...	33,467	67 5 0	0 3 3	July 1909 ...	October 1910.	
...	...	1 0	Bajri for seed ...	900 seed	38 7 0	4 4 4	September 1909.	December 1910.	

Guinea Grass.

Field No.	Plot No.	Area.	Outturn.	Cost of cultivation.	Cost of 100 lbs. of the fodder.	Remarks.
		A. g.	Lbs.	Rs. a. p.	Rs. a. p.	
7	...	0 18	8,076	15 10 0	0 2 10	
8	...	0 27	5,912	21 15 0	0 6 0	
9	...	0 18	6,460	13 0 0	0 3 3	
10	2	2 23	21,024	37 0 0	0 2 10	
18	...	0 10	5,096	24 7 0	0 7 8	
15	...	0 10	5,960	5 7 0	0 1 6	

Guinea grass produced an average of 12,490 lbs. of fodder per acre, maize yielded 13,093 lbs. per acre, sorghums an average of 18,178 lbs. per acre and sugarcane an average of 25,504 lbs. per acre.

The average for the finer crops such as peas and oats mixed crop 12,057 lbs. per acre while lucerne gave a yield of 55,504 lbs. per acre throughout the year.

The average cost of cultivation per acre of guinea grass is Rs. 28-10-4, of maize Rs. 41-5-5, of sorghum Rs. 35-10-0, sugarcane Rs. 116-0-0, lucerne Rs. 100-0-0, bajri Rs. 31-12-0 and fine forage crops Rs. 69-13-2.

The average cost of raising 100 lbs. of the different kinds of fodder is given in the following statement for comparison :—

Fodder.	cost.
	Rs. a. p.
Guinea grass	... 0 3 9
Maize	... 0 5 1
Sorghum	... 0 3 2
Bajri	... 0 3 0
Sugarcane	... 0 7 3
Lucerne	... 0 2 11
Mixed fodder (as peas, oats, &c.)	... 0 9 3

J. B. KNIGHT,
Professor of Agriculture.

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39	1910	The Salt Land of the Nira Valley, by Harold H. Mann, Principal, Agricultural College, Poona, and V. A. Tamhane, Laboratory Assistant, Agricultural College, Poona ...	0	5	0

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1910/11

Department of Agriculture, Bombay.

ANNUAL REPORT

OF THE

KIRKEE CIVIL DAIRY

(Poona District, Deccan)

FOR THE YEAR

1910-1911

BY

J. B. KNIGHT, M.Sc., B.Sc.,

Professor of Agriculture.

BOMBAY

PRINTED AT THE GOVERNMENT CENTRAL PRESS

1911

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THE GOVERNMENT CIVIL DAIRY, KIRKEE, 1910-11.

I.—INTRODUCTION.

The objects of the Dairy are :—

1. To afford instruction for the students of the College of Agriculture, Poona.
2. To serve as a model Dairy to the public.
3. To give opportunity for experiments in feeding and dairying.
4. To improve dairy breeds.
5. To supply pure milk to invalids and children of Poona and Kirkee.

II.—HEALTH OF ANIMALS.

1. The health of the herd has been good except that of young calves.

III.—MILK SUPPLY.

1. The year's supply of milk amounted to 215,174 lbs. 12 ozs. which being insufficient to meet the local demands, many customers had to be dropped to enable the dairy to comply with the demands for infants, invalids, and the sick in the Sassoon Hospital. The Sassoon Hospital contract was continued on the same terms as last year.

2. Arrangements for supplying special milk for infants have been continued. The demand for this milk is very great. But owing to the requirements of the Sassoon Hospital being high, it is impossible to meet the demand with the present herd, and customers have to be refused. The cows selected for this purpose are specially fed and not allowed to graze.

IV.—YIELD OF MILK.

It will be seen from the following statements that among Cows and Buffaloes, the cattle below produced the highest yields of milk in each Breed in the year under report :—

No.	Name of cattle.			Breed.			Yield of milk.	
	I.—Cows.						Lbs. ozs.	
1	Zankar	...	...	Sindhi	...	...	3,820	12
2	Chavguni	...	...	Do.	...	...	3,741	0
3	Bullakhi	...	...	Do.	...	...	3,681	0
4	Sakhari	...	...	English-Cross		...	3,286	0
5	Narmada	...	...	Gir	...	...	3,110	0
	II.—BUFFALOES.							
1	Lawangi	...	...	Surati	...	...	4,700	4
2	Zabulla	...	...	Jafferabadi		...	4,135	4
3	Sajani	...	...	Surati	...	...	3,942	0
4	Kaweri	...	...	Do.	...	...	3,709	0
5	Asman	...	...	Dellhi	...	...	3,256	0
6	Anjan	...	...	Surati	...	...	3,170	0
7	Shitap	...	...	Do.	...	...	3,102	0
8	Chandri	...	...	Deccani	...	...	2,024	12

Statement showing record of milk of each animal during 1910-11.

No.	Name.	Age.	Total number of years under observation.	Results during period shown in column 4					Yield milk during 1910-11.	Value of milk during period shown in column 4.	Remarks.
				Total number of days in milk.	Total dry days.	Average of maximum daily yield.	Average daily yield.	Yearly average output.			
1		3	4	5	6	7	8	9	10	11	12
	I.—Cows.	Y. m. d.				Lbs. oz.	Lbs. oz.	Lbs	Lbs. oz.	Rs.	
	Aden's.										
1	Bhagi ...	Aged ...	12	3,253	1,066	18 3	7 7	2,720	1,777 12	2,848	
2	Droupadi ...	4 0 24	$\frac{1}{2}$	45	...	12 4	5 15	...	267 4	27	
3	Parwati ...	12 0 0	$3\frac{1}{2}$	982	393	9 10	4 1	1,480	2,156 12	540	
4	Sansari ...	Aged ...	4	1,072	339	16 7	7 11	2,504	1,022 12	844	
5	Shiti ...	7 8 0	$4\frac{1}{2}$	1,238	352	15 9	7 4	2,641	2,704 12	952	
6	Sakhari ...	6 0 0	$\frac{3}{4}$	257	...	17 8	11 7	...	3,286 0	328	
	Sindhi.										
1	Bhasmi ...	14 11 22	11	2,526	1,490	14 9	5 9	2,019	1,464 8	1,971	
2	Bullakhi ...	7 9 16	$4\frac{3}{4}$	1,613	3	13 3	5 7	1,990	3,681 0	1,222	
3	Changuni ...	5 11 9	5	281	...	21 12	13 5	...	3,741 0	374	
4	Daulat Pitambari.	6 4 5	$2\frac{5}{23}$	785	19	13 10	7 4	2,644	2,111 4	522	
5	Houshi ...	16 0 0	9	2,069	217	14 9	8 7	3,092	2,434 8	2,494	
6	Khillar ...	8 4 4	$5\frac{1}{2}$	1,666	251	13 15	6 14	2,516	2,592 4	1,112	
7	Lāhori ...	14 0 0	9	2,465	821	15 13	3 12	1,390	1,744 4	1,705	
8	Mohan ...	8 2 27	4	1,428	41	17 15	9 5	3,395	2,628 0	1,158	
9	Mori ...	15 0 0	9	2,686	600	15 4	7 6	2,694	2,952 0	2,149	
10	Mutri ...	10 8 18	$6\frac{3}{4}$	2,020	430	17 1	6 4	2,280	1,819 12	1,291	
11	Parl ...	18 0 0	11	3,032	984	14 2	4 3	1,543	2,539 12	2,313	
12	Piri ...	15 2 29	12	3,575	806	13 5	6 14	2,518	1,038 4	2,656	
13	Pitambari ...	15 7 18	12	3,851	530	17 1	8 10	3,151	415 4	3,248	
14	Polla ...	15 0 0	11	2,655	1,361	11 13	5 2	1,877	324 12	1,797	Sold.
15	Son ...	8 2 22	$5\frac{1}{2}$	1,390	429	10 6	6 12	2,469	2,752 0	1,127	
16	Shant ...	6 4 4	$\frac{1}{2}$	195	...	14 8	11 11	...	2,283 0	228	
17	Shewant ...	3 9 17	$\frac{3}{4}$	241	...	16 0	7 13	...	1,855 8	198	
18	Sukhi ...	11 10 4	$7\frac{5}{6}$	1,572	989	...	3 4	1,200	...	1,272	
19	Zankar ...	18 0 0	9	2,748	528	19 0	9 9	3,502	3,820 12	2,760	
	Sindhi-Cross.										
1	Kara ...	13 8 10	10	2,108	1,543	14 10	5 6	1,960	1,453 4	1,736	
2	Mungali ...	9 2 3	$5\frac{1}{2}$	1,904	1	16 13	8 15	3,266	2,680 8	1,460	
3	Nira ...	4 7 11	$\frac{1}{16}$	20	...	13 12	7 13	...	156 8	15	
4	Shendi ...	10 3 19	$5\frac{1}{2}$	1,529	109	13 8	7 9	2,768	1,811 4	1,281	
5	Yeshi ...	12 0 0	$6\frac{1}{2}$	2,259	260	15 15	7 9	2,763	2,374 12	1,658	

No.	Name.	Age.	Total number of years under observation.	Results during period shown in column 4.					Yield milk during 1910-11.	Value of milk during period shown in column 4.	Remarks.
				Total number of days in milk.	Total dry days.	Average of maximum daily yield.	Average daily yield.	Yearly average output.			
1	2	3	4	5	6	7	8	9	10	11	12
	I.—Cows— <i>continued.</i>	Y. m. d.				Lbs. oz.	Lbs. oz.	Lbs.	Lbs. oz.	Rs.	
	<i>Gir.</i>										
1	Atdagir ...	11 0 0	1½	494	134	17 7	6 7	2,358	1,409 8	318	Died.
2	Bhowali ...	15 0 0	6½	1,444	838	17 3	7 3	2,618	2,489 4	1,440	
3	Bigul ...	15 10 11	12	3,327	1,050	13 6	6 2	2,232	1,967 0	2,314	
4	Budhi ...	13 0 0	6¼	1,433	845	16 6	6 3	2,271	2,303 0	1,240	
5	Ghodmukhi ...	18 3 0	2½	590	261	11 5	3 10	1,232	560 12	368	Died.
6	Godi ...	15 0 0	7½	2,110	506	13 1	6 3	2,253	381 12	1,411	
7	Kājali ...	15 0 0	4¾	1,199	525	12 10	5 10	2,054	1,573 4	839	
8	Kamali ...	15 0 0	6½	1,467	886	13 15	5 8	1,996	1,430 0	1,000	
9	Khabutri ...	18 0 0	3½	735	420	12 0	4 9	1,671	1,798 12	471	
10	Kusum ...	8 0 0	1½	452	75	13 0	5 8	2,023	1,653 8	280	
11	Lahiri ...	11 0 0	6½	1,866	487	14 5	6 11	2,445	1,592 0	1,334	
12	Mahali ...	13 0 0	4¾	1,348	386	12 9	6 1	2,209	2,053 0	908	
13	Mukharana ...	16 0 0	6½	1,436	700	15 6	5 8	2,016	465 8	942	
14	Narmada ...	18 0 0	1½	490	39	15 5	6 10	2,423	3,110 0	355	
15	Pandhari ...	7 0 0	2½	765	25	18 5	8 9	3,120	2,415 8	603	
16	Pawali ...	15 0 0	6½	1,737	617	12 3	5 8	2,008	2,744 8	1,118	
	<i>Konkraji.</i>										
1	Amadabedi ...	5 6 0	17½	546	40	12 9	6 12	2,455	2,627 8	358	
2	Cbarodi ...	6 0 0	2½	348	442	9 0	3 10	1,535	22 4	241	
3	Nadiadi ...	4 0 0	2½	16	...	15 4	11 13	...	178 12	18	

Note.—The average yield per cow comes to 1,863 lbs. 9 oz. and the daily average to 5 bs. 2 oz.
Column 9 gives the average for the whole period; including dry days.

Statement showing record of milk of each animal during 1910-11.

No.	Name.	Age.	Total number of years under observation.	Results during period shown in column 4.					Yield of milk during 1910-11.	Value of milk during period shown in column 4	Remarks.
				Total number of days in milk.	Total dry days.	Average of maximum daily yield.	Average daily yield.	Yearly average output.			
1	2	3	4	5	6	7	8	9	10	11	12
II.—BUFFALOES.											
<i>Jafrabadi.</i>											
1	Kundal ...	18 0 0	8	1,595	1,326	14 10	6 5	2,312	2,130 4	1,560	
2	Newashi ...	8 6 13	8	187	...	22 0	16 11	...	2,287 8	220	
3	Ratan ...	19 0 0	8	2,144	773	20 1	9 4	3,334	1,921 12	2,254	
4	Zabulla ...	11 0 0	2½	658	356	22 6	9 2	3,333	4,135 4	833	
<i>Delhi.</i>											
1	Abhrak ...	11 0 0	1½	132	357	9 4	2 14	1,045	14 4	130	
2	Asman ...	6 0 0	1½	420	119	21 15	10 14	3,072	3,253 0	551	
3	Bhullan ...	9 0 0	1½	460	169	26 2	9 7	3,445	1,772 0	556	
4	Phiwara ...	15 0 0	2¼	433	500	6 12	2 12	1,021	1,343 4	297	
5	God ...	9 0 0	4½	1,218	388	18 5	8 15	3,263	2,936 12	1,251	
6	Landi ...	9 0 0	2½	605	163	16 14	6 11	2,451	1,830 0	466	
7	Mewa ...	11 0 0	1½	387	148	19 12	8 6	3,072	1,612 4	411	
8	Nemad ...	10 0 0	2¼	560	436	15 11	4 14	1,797	635 12	423	
9	Roundali ...	11 0 0	1½	490	45	15 12	9 15	3,027	2,701 4	498	
10	Shingar ...	12 0 0	1½	394	145	21 5	9 9	3,489	2,894 12	484	
11	Subhedar ...	9 0 0	1½	385	154	18 5	9 5	3,400	2,803 12	471	
12	Mamalatdar ...	0 7 0	½	54	...	19 12	15 1	...	815 0	86	
13	Panjan ...	0 8 0	½	54	...	18 0	14 9	...	785 12	79	
14	Phoujdar ...	0 7 0	½	54	...	23 8	17 5	...	984 4	93	
15	Shirestedar ...	0 7 0	½	54	...	20 8	17 9	...	947 8	95	
<i>Surati.</i>											
1	Aditwari ...	16 0 0	6½	1,808	604	13 13	6 9	2,412	1,979 12	1,340	
2	Agaj ...	10 0 0	1½	511	143	24 0	10 5	3,761	2,605 0	617	
3	Anjan ...	10 0 0	1½	503	151	22 4	10 4	3,680	3,170 4	616	
4	Bhowari ...	15 0 0	6½	1,647	769	13 3	5 14	2,158	1,514 8	1,223	
5	Barshi ...	17 0 0	8	1,666	1,255	17 12	5 15	2,181	1,489 8	1,451	
6	Chabelli ...	19 2 18	11½	2,781	1,425	13 10	6 15	2,541	817 12	2,453	Sold.
7	Dhawalar ...	8 0 0	1½	502	144	20 8	8 8	3,109	2,568 12	521	
8	Dimak ...	15 0 0	3½	531	582	13 15	4 12	1,730	1,268 4	459	
9	Gajara ...	10 0 0	1½	427	227	14 4	6 7	2,350	417 0	506	
10	Gajari ...	19 5 0	11½	2,839	1,333	...	6 4	2,297	...	2,200	Sold.
11	Ganga ...	7 0 0	1½	399	140	16 4	9 0	3,288	2,527 0	553	
12	Genda ...	10 0 0	1½	487	167	23 14	11 9	4,214	2,761 12	691	
13	Ghaini ...	18 0 0	5½	1,545	481	13 12	6 1	2,218	735 4	1,152	Sold.

No	Name.	Age.	Total number of years under observation.	Results during period shown in column 4.					Yield of milk during 1910-11.	Value of milk during period shown in column 4.	Remarks.
				Total number of days in milk.	Total dry days.	Average of maximum daily yield.	Average daily Yield.	Yearly average output.			
1	2	3	4	5	6	7	8	9	10	11	12
	II.—BUFFALOES —continued. Surti—contd.	Y. m. d.				Lbs. oz.	Lbs. oz.	Lbs.	Lbs. oz.	Rs.	
14	Ghari ...	18 5 0	11 $\frac{3}{4}$	2,958	1,214	15 10	3 8	1,292	870 0	680	Sold.
15	Ghaini II ...	6 1 16	$\frac{3}{4}$	70	...	17 8	14 13	...	1,172 4	117	
16	Jamádár ...	18 3 27	12	2,600	1,368	14 10	6 5	2,311	1,849 8	2,249	
17	Jamani ...	12 0 0	2 $\frac{3}{4}$	610	386	12 8	4 14	1,780	1,743 8	437	
18	Kaweri ...	18 3 17	12	3,337	1,040	18 15	9 5	3,400	3,709 0	3,343	
19	Lawangi ...	13 0 0	2 $\frac{3}{4}$	788	208	26 15	13 13	5,044	4,700 4	1,235	
20	Ligi ...	11 0 0	1 $\frac{1}{2}$	333	236	15 1	7 9	2,777	1,143 12	366	
21	Mahajan ...	7 0 0	3 $\frac{3}{4}$	903	421	13 1	9 2	3,323	2,559 12	1,058	
22	Maina ...	13 0 0	5 $\frac{5}{12}$	1,365	434	18 5	4 9	1,665	1,471 0	772	
23	Mastani ...	6 0 0	1 $\frac{5}{12}$	418	100	9 11	6 3	2,252	1,743 12	233	
24	Mogra ...	12 0 0	2 $\frac{3}{4}$	686	310	20 1	8 11	3,177	2,492 0	769	
25	Mora ...	16 0 0	6 $\frac{7}{12}$	1,780	632	15 3	8 3	2,994	1,833 0	808	
26	Nawasari ...	9 0 0	2 $\frac{3}{4}$	601	395	16 7	4 12	1,742	1,702 0	427	
27	Nishan ...	10 5 0	3	735	365	12 6	5 12	2,094	0 6 4	676	Died.
28	Parli ...	18 0 0	12	3,065	1,276	13 11	5 11	2,072	1,515 12	2,016	
29	Patangi ...	16 0 0	6 $\frac{7}{12}$	1,555	791	17 8	8 4	3,008	2,966 8	1,618	
30	Pheni ...	6 8 14	$\frac{3}{4}$	193	...	17 8	10 8	...	2,025 4	203	
31	Polladi ...	14 0 0	2 $\frac{3}{4}$	863	123	18 11	6 13	2,475	2,833 4	614	
32	Ranga ...	16 0 0	9	2,061	1,221	16 14	6 12	2,474	1,093 12	1,146	
33	Sajani ...	11 0 0	5	1,216	550	21 15	10 11	3,910	3,942 0	1,603	
34	Sayani ...	9 0 0	3 $\frac{7}{12}$	881	429	16 13	6 8	2,374	2,239 0	747	
35	Shardul ...	13 0 0	3 $\frac{7}{12}$	874	521	18 7	8 8	3,096	1,714 8	956	
36	Shitap ...	11 0 0	2 $\frac{1}{4}$	600	306	15 13	7 8	2,739	3,102 0	679	
37	Sunder ...	9 0 0	1 $\frac{1}{2}$	435	104	15 8	8 4	3,022	2,431 4	418	
38	Tawali ...	12 0 0	6 $\frac{1}{4}$	1,355	1,168	12 2	4 15	1,807	421 12	1,023	
39	Tura ...	10 0 0	2 $\frac{1}{4}$	865	191	13 4	5 8	2,014	2,399 4	550	
40	Yamani ...	12 0 0	2 $\frac{1}{2}$	728	268	13 11	7 1	2,574	1,982 0	623	
	Deccani.										
1	Chandri ...	18 0 0	4 $\frac{1}{6}$	1,184	581	12 4	5 7	1,992	2,024 12	835	
2	Ghowada ...	17 0 0	4 $\frac{5}{6}$	1,036	729	10 5	4 0	1,458	1,040 8	604	
3	Gowra ...	17 0 0	3 $\frac{1}{2}$	865	290	17 5	7 8	2,744	2,699 4	770	
4	Hungani ...	17 0 0	4 $\frac{5}{6}$	1,052	713	9 0	3 11	1,346	1,907 4	575	
5	Nandi ...	13 0 0	4 $\frac{5}{6}$	1,021	744	13 0	4 5	1,488	1,907 0	632	

NOTE:—The yearly average yield per buffalo comes to 1,931 lbs. 7 oz. and the daily average to 5 lbs. 5 oz.

V.—STRENGTH OF THE HERD.

The statement below shows the strength of the herd on the 1st April 1911 as compared with that on 1st April 1910.

From the figures in the statement it will be seen that the total number of cattle on the 1st April 1911 is 4 in excess of what it was on the same date last year. Four buffaloes were purchased during the year and 1 cow and 4 buffaloes were sold.

Statement showing the strength of the herd on 1st April 1911 as compared with that on 1st April 1910 :—

Description.	Increase.				Decrease.				Strength on 1st April 1911.	Valuation.		Increase or decrease during the year.	Remarks.
	Strength on 1st April 1910.	Purchased or transferred.	Born.	Total.	Sold.	Died.	Transferred.	Total.		1910.	1911.		
<i>Cows.</i>	No.	No.	No.	No.	No.	No.	No.	No.	No.	Rs.	Rs.	Rs.	
Stud-bulls..	11	T	..	..	..	..	1	1	10	694	568	-126	
Cows ..	42	7	..	7	1	2	..	3	46	2,705	2,961	+256	
Heifers ..	8	19	..	19	..	..	7	7	20	415	1,400	+985	
Cow-calves ..	47	}	34	34	13	15	19	47	63	1,190	860	-330	
Bull-calves ..	29												
Total ..	137	26	34	60	14	17	27	58	139	5,004	5,789	+785	
<i>Buffaloes.</i>													
Buffalo-bulls ..	4	..	..	..	1	1	..	2	2	155	70	-85	
Buffaloes ..	57	47	..	7	4	1	..	5	59	4,896	5,050	+154	* Of which 4 were purchased and 3 transferred from heifers.
Heifers ..	6	2	..	2	..	..	3	3	5	420	350	-70	
Female calves ..	26	}	5	29	34	4	25	2	31	46	400	555	+155
Male calves ..	17												
Total ..	110	14	29	43	9	27	5	41	112	5,871	6,025	+154	
Horses ..	2	2	..	2	..	2	..	2	2	157	124	-31	

VI.—BREEDS KEPT.

The breeds kept on the farm are among cows and buffaloes :—

(1) Karachi or Sindhi. (2) Aden. (3) Gir. (4) Konkreji.

(1) Jafferabadi. (2) Murrah or Delhi. (3) Kaira or Surati. (4) Varadi or Deccani.

The number of farm bred cows is 43.

Breeding bulls:—The three breeds Sindhi, Gir or Aden are kept on the farm and Jafferabadi and Surati as buffalo bulls.

VII.—SERVICE OF BULLS.

Free service of bulls is given to the healthy animals of the public. During the year under report 32 cows and 32 buffaloes were covered.

Of the number of cows—13 were covered by Aden, 10 by Gir and 9 by Sindhis.

Of the buffaloes 16 by Surati and 16 by Jafferabadi.

VIII.

Fodder was grown on the farm lands measuring 38 acres 5 gunthas. The results of the several fodders grown are shown in the following statement:—

First Crop.

Field No.	Plot No.	Area.	Name of crop.	Outturn per plot.	Cost of cultivation per plot.	Cost of 100 lbs. green fodder.	Date of sowing.	Date of harvesting.	Remarks.
		A. g.		Lbs.	Rs. a. p.	Rs. a. p.			
7	1	0 35	Peas and oats...	Nil.	38 11 0	...	29th March 1910.	.....	Not properly germinated.
9	1	2 0	Maize ...	8,740	85 5 0	0 15 7	17th March 1910.	1st June 1910.	
8	1	1 0	Utawali	21,950	28 12 0	0 2 1	8th July 1910...	1st October 1910.	Not properly germinated.
	1	1 4	Maize ...	Nil.	37 5 0	...	30th April 1910.	.....
4	...	2 8	Bajri ...	37,263	73 11 0	0 3 2	24th April 1910.	14th August 1910.	
16	1	2 30	Maize ...	24,106	151 14 6	0 10 1	7th February 1910.	6th May 1910.	
16	2	0 30	Shalu ...	8,737	16 9 6	0 3 1	11th October 1910.	4th January 1911.	
10	2	0 34	Maize ...	9,032	17 12 0	0 3 2	28th May 1910	1st August 1910.	
11	1	2 10	Hundi ...	43,450	144 0 0	0 5 3	29th March 1910.	23rd July 1910.	
10	3	2 28	Sundhia ...	13,977	45 1 0	0 3 9	rd July 1910...	24th August 1910.	
15	1	2 0	Bombay hemp	*24,936 †6,425	68 8 0	0 4 6	30th July 1910	14th September 1910.	* Green. † For manure.
15	2	0 20	Shalu ...	3,825	19 14 0	0 8 4	11th October 1910.	9th January 1911.	
2	...	1 30	Maize ...	24,952	51 4 0	0 3 3	25th June 1910.	6th September 1910.	
12	...	0 33	Do. ...	10,000	23 3 0	0 3 8	30th June 1910.	22nd September 1910.	
5	...	1 0	Do. ...	17,000	49 3 0	0 4 7	8th June 1910	11th August 1910.	
3	...	1 0	Do. ...	11,200	35 9 0	0 5 1	7th July 1910...	16th September 1910.	
6	1	1 0	Bajri and chawali.	6,711	9 14 0	0 2 4	5th June 1910.	13th September 1910.	
6	2	1 8	Maize ...	6,822	14 5 0	0 3 4	9th July 1910...	14th September 1910.	
13	...	0 10	Do. ...	5,520	12 8 0	0 3 7	13th May 1910.	11th July 1910.	
17	...	1 0	Do. ...	25,200	48 9 0	0 3 1	13th May 1910.	5th July 1910.	
13	...	0 15	Sugarcane ...	14,170	33 6 0	0 3 9	.....	.....	Two cuttings.
10	1	0 20	Lucerne ...	19,1	56 4 6	0 4 8	.....	.....

Second Crop.

Field No.	Plot No.	Area.	Name of crop.	Outturn per plot.	Cost of cultivation per plot.	Cost per 100 lbs. green fodder.	Date of sowing.	Date of harvesting.	Remarks.
		A. g.		Lbs.	Rs. a. p.	Rs. a. p.			
7	..	0 35	Uttavali ..	20,672	42 15 0	0 3 3	9th July 1910	9th October 1910.	
9	..	2 0	Maize and oat ..	16,671	117 15 0	0 11 3	23rd September 1910.	6th December 1910.	
..	Fallow for Lucerne.
4	..	2 8	Maize ..	*22,182	137 7 0	0 9 8	2nd November 1910.	10th February 1911.	*Dry fodder. (Frost.)
16	..	2 30	Uttavali ..	18,026	94 15 6	0 8 5	28th August 1910.	2nd November 1910.	S e m i - d r y. (Frost.)
10	..	0 34	Shalu and Val ..	Nil.	69 7 3	.	17th December 1910.	....	Frost.
11	..	2 10	Maize ..	†46,736	196 2 0	0 6 5	27th October 1910.	28th January 1911.	Frost. †Dry fodder Frost.
15	..	2 0	Maize ..	Nil.	67 0 0	..	....	....
2	..	1 30	Peas and oat ..	35,148	137 8 6	0 6 3	31st October 1910.	28th January 1911.	
12	..	0 33	Maize ..	..	....	..	....	..	St a n d i n g crop. Frost.
5	..	1 0	Imphee ..	Nil.	53 7 0	..	1st November 1910.	....
3	..	1 0	Shalu ..	Nil.	22 3 3	..	15th November 1910.	....	Do.
17	..	1 0	Do. ..	5,310 Dry.	49 9 0	0 15 6	28th October 1910.	23rd January 1911.	Do.

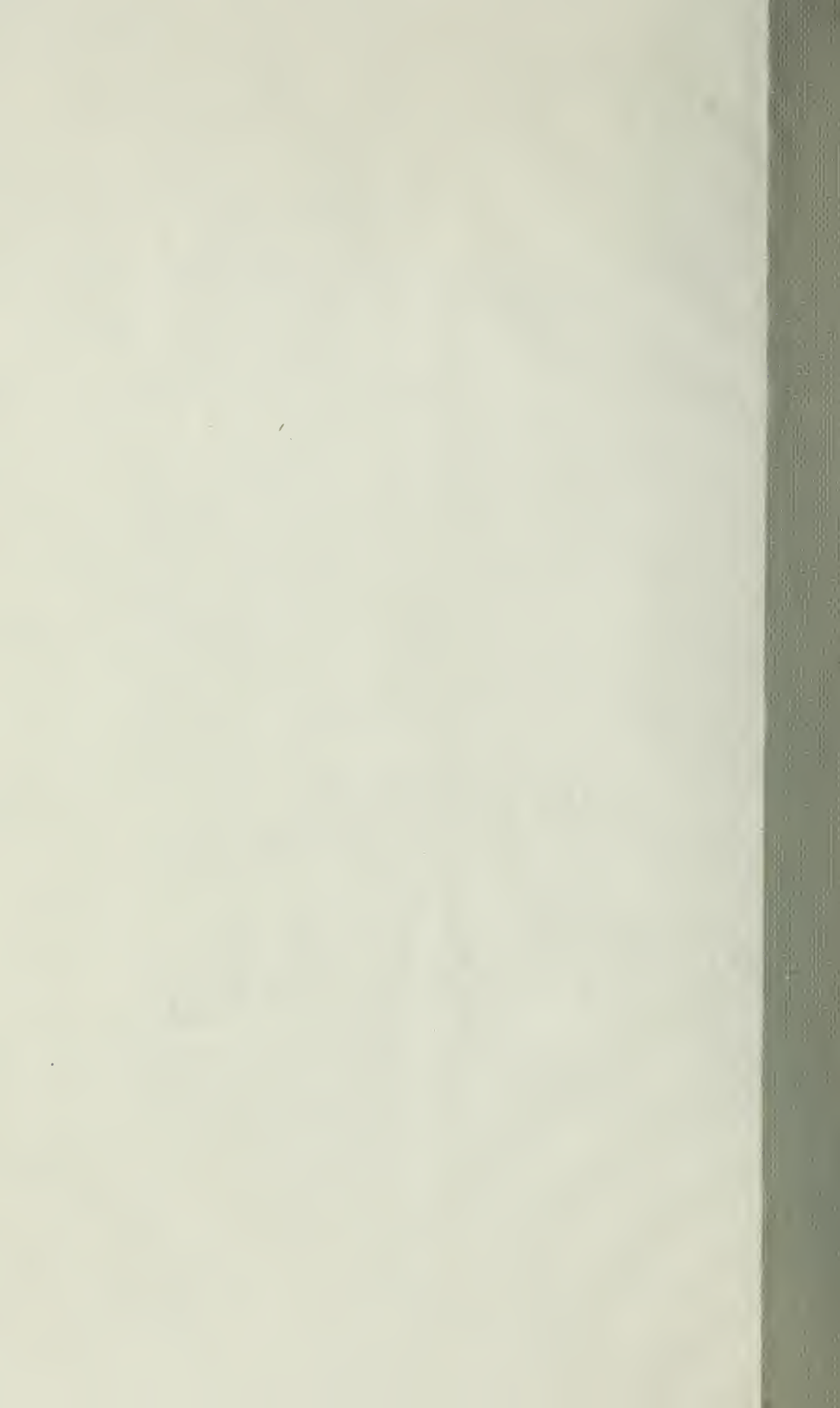
Guinea Grass.

Field No.	Plot No.	Area.	Name of crop.	Outturn per plot.	Cost of cultivation per plot.	Cost of 100 lbs. green fodder.	Date of sowing.	Date of harvesting.	Remarks.
		A. g.		Lbs.	Rs. a. p.	Rs. a. p.			
1	1	1 10	Guinea Grass..	9,000	33 9 0	0 5 11	..	....
4	3	1 17	Do ..	14,122	46 6 0	0 5 3	...	...
15	2	0 10	Do. ..	2,512	7 6 0	0 4 3	....	....
18	..	0 10	Do. ..	7,283	10 13 6	0 2 4	....	....
18	..	0 5	Hariali ..	1,768	3 6 0	0 3 0	....	....
6	..	0 12	Guinea Grass..	3,414	10 1 2	0 4 8	...	....
7	..	0 18	Do. ..	5,653	15 3 0	0 4 3	....	....
8	..	0 27	Do. ..	5,134	21 8 9	0 6 8	
9	..	0 18	Do. ..	3,992	14 6 0	0 5 9	

J. B. KNIGHT,
Professor of Agriculture.

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